THE

COMMERCIAL REVIEW.

VOLUME I.] APRIL, 1846. [NUMBER 4.

ART. I.—THE COTTON PLANT.*

THE curse of God which doomed the earth to comparative sterility for the sins of man, can only be duly appreciated in the reflection that the earth is the great source of supply to all of his physical wants. He may call upon the animal creation for their tribute—the fish of the sea, the birds of the air and the beasts of the forests, and he may mould them to his will and his uses, but the decree will still be against him, thou shalt till the ground and earn subsistence only with daily sweat: "cursed is the ground for thy sake, in sorrow thou shalt eat of it all the days of thy life: thorns also and thistles shall it bring forth: in the sweat of thy face thou shalt eat bread."

It is not written that "man shall live by bread alone," we are told. He must be protected from the snows of winter and the sultry summer

* 1. Memoir on the Origin, Cultivation and Uses of Cotton: by WHITEMARSH B. SEABROOK, President of the State Agricultural Society of South Carolina: 1843.

2. Responses to the Circular of the Secretary of the Treasury: Treasury Documents, 1846.

3. Ellsworth's Report of the operation of the United States Patent Office: 1845.

4. White's Memoir of Slater, and History of the Rise and Progress of the Cotton Manufacture in England and America.

5. Pitkin's Statistical View of the Commerce of the United States and its connection with Agriculture and Manufactures.

6. Baine's History of the Cotton Manufacture.

7. Pastoral Life and Manufactures of the Ancients: 1846.

8. McCulloch, article Cotton.

9. Southern Quarterly Review, Vol. i. No. 2, article East India Cotton.

10. View of the United States of America: by Tench Coxe: Philadelphia, 1794.

suns—he must be shielded from the storms of heaven, and his natural powers of locomotion be added to for the purposes of his being. Man here below, after all, wants much; and for all his wants his parent earth bids him toil, and yields to him at last a reluctant revenue. In the first days of her shame mother Eve could sew fig leaves into a garment, but no longer can her progeny be satisfied with fig leaves, nor be clothed like the lilies of the valley, "which neither spin nor weave." "Time began" as an old English poet has it, "when Adam delved and Eve span," and it has been so ever since, and it will be so in all the future, delving and spinning, delving and spinning for every child of Adam. It was "delve" then for bread, and fleece the flock for the spinning reel; but now it is "delve" for everything: "delve for the bread which makes the body, and "delve" for the covering in which the body is enveloped. We are learning to discharge the lower animals from their vassalage, to forget that they have backs to be fleeced and shorn, now that the harnessed elements struggle in vain against our despot wills, but when shall we discharge the earth from her labors and bid her prolific virtues from seed time to harvest be exerted no more? Man is abandoning the animal in his giant victories over the vegetable kingdom.

The design of the present sketch is to exhibit—

I. The earliest knowledge we have in relation to the growth of the cotton plant.

II. The culture of cotton amongst the ancients.

III. The introduction of cotton into Europe.

IV. The history of cotton in America.

V. The present extent of the cotton trade.

VI. The future prospects of American cotton.

In subsequent numbers of our journal we shall continue the subject before us in its other interesting and important relations, following a a similar order in the discussion of each.

I. THE COTTON PLANT.

II. THE MANUFACTURE OF COTTON.

III. THE CULTURE OF COTTON.

Once for all it is as well to state that we have drawn upon all the authorities collected together at the bottom of the preceding page, for our facts and statistics. The material is full, and we have made, as we are entitled to do, a legitimate use of it, and shall embody in the three articles an amount of information on most important subjects not now within reach of the great mass of readers. In the article on the CULTURE OF COTTON, we expect to be assisted by some of the leading planters of this staple in the South and West; and for that purpose have issued numerous circular letters. The present number of our Review may

be considered as a general invitation also to all such who will communicate their views to us fully.

Of the four great articles of human clothing, cotton, silk, wool and flax, not one is indigenous to Europe, two only are indigenous to Africa and America, cotton and flax, whilst all the rest belong to Asia. Cotton is said to possess the advantage over all the materials which the skill of man converts into comfortable and elegant clothing. Its utility is independent of climate. Yielding to many other fabrics in beauty and texture, for health and comfort in the coldest or the hottest regions, the cotton fabric stands unrivalled. The fact is explicable on chemical principles. Whilst linen, a good conductor of heat, condenses the vapor of perspiration into moisture upon the skin, becomes wet, chilled and unable to absorb what it has condensed; cotton being a bad conductor of heat, on the other hand condenses but little moisture, and absorbs a large proportion of what it does condense, leaving the rest to pass off in vapor, and the skin healthy and dry. From these considerations it is said that in cold climates or in the nocturnal cold of tropical climates, cotton clothing is much better calculated to preserve the warmth of the body than linen. In hot climates also it is more conducive to health and comfort by admitting of freer perspiration. Mr. Leuwenhoeck subjected fibres of cotton and flax to a powerful microscope, and in this way discovered essential organic differences in them. The fibres of cotton are sharp and angular, rendering it unfit for dressing wounds, whilst those of flax are round and smooth. The corkscrew twist of the cotton fibre is said by Mr. Bauer to be always retained, undergoing no change in spinning, weaving, bleaching, printing and dyeing, nor in all the subsequent domestic operations of washing, etc., till the stuff is worn to rags; and then even the violent process of reducing these rags to pulp for the purpose of making paper, effects no change in the structure of these fibres. In thickness they are said to vary from 1-800 to 1-3600 part of an inch.

Cotton wool is the down of a vegetable which appears in botanical works under the genus *gossypium*. There are several varieties of the genus. The wool adheres to the seed of the plant, and is incased until maturity in a pod of triangular shape, with three cells. This pod increases to the size of a filbert, becomes brown, bursts and discloses a triple lock of wool. According to Linnæus there are five species of the plant.

1. *Gossypium herbaceum*, or herbaceous.
2. *Gossypium arboreum*, or arborescent.
3. *Gossypium hirsutum*, or hairy.
4. *Gossypium religiosum*, or religious.
5. *Gossypium Barbadenses*, or Barbadoes.

Other writers have varied as to the number of species. The highest number given is ten; the *Indicum*, *Micranthum*, *Vitifolium*, *Latifolium* and *Peruvianum* being added to the list. But the great and cardinal distinctions of the plant are found in three classes, which we shall hereafter consider.

1. The herbaceous cotton.
2. The shrub cotton.
3. The tree cotton.

We take up our subject now in the order in which it is laid before us:—

1. *The earliest history and mention of the Cotton Plant.*—The sacred records furnish us nothing satisfactory on the subject. The only word which occurs in them which would lead us to infer that the Jews knew anything of this staple is the word *Carpas*, translated *green* in the phrase "green and blue hangings,"—*Esther*, i. 6, Carpas being an Oriental word for Cotton. Herodotus, 400 years before Christ, observed, in relation to India, that the wild trees in that country bear fleeces as their fruit surpassing those of sheep in beauty and excellence, and the Indians use cloth made from these trees. The Greeks knew little or nothing of Cotton till the expeditions of Alexander the Great into India. Theophrastus, who lived a little after this time, learned that the trees from which the Indians made cloths have a leaf like that of the black mulberry, and that these trees were set out in rows like vines. His description of the plant is admirably exact—"The capsule containing the wool is, when closed, about the size of a quince, when ripe it expands so as to admit the wool." Alexander's generals were men of observation, and we have, from two of them at least, clear and indisputable evidence of Cotton. Aristobulus instanced the capsule containing seed, and the wool which might be combed out; and Nearchus went into particulars "there are in India trees bearing as it were flocks or bunches of wool, out of which the natives make garments, wearing a shirt which reaches to the middle of the leg, a sheet folded about the shoulders, and a turban folded round the head."

Carpasus or Carbasus were terms without doubt used by the Latin writers to describe the Cotton product of the East. Thus Curtius, speaking of Eastern dress, has the passages *carbasa velant*, "covered with carbasus;" *purpurea carbasa*, "with purple carbasus;" and Lucan—

"Fix
With colored gems the flowing Carbasus."

As the Greeks and Romans, says our authority, became acquainted with cotton much earlier than with silk, we find that Carpas, the proper

Oriental name for Cotton, was also in use among them at a comparatively early period.

The use of Cotton amongst the Greeks and Romans must necessarily have been of the most limited extent, and only as an article of exquisite luxury. It is not clear that the early Greeks had any knowledge of the fabric at all. The word *carbasina*, in a Greek play, does not warrant the inference which has been drawn "that 200 years before Christ the Greeks made use of cotton cloths of some kind which were brought from India." The testimony is better for the Romans, but then it goes back at furthest but seventy years before the Christian era.

The luxurious Verres in Sicily protected his tents from the sun's rays by coverings of the *carbasus*. This is the earliest mention of the Roman use of Cotton. The following passage has been translated from Livy,—"Lentulus Spinther (B. C. 63) is said to have first introduced cotton awnings in the theatre at the Apollinarian Games. By and by Cæsar the Dictator covered with awnings the whole Roman forum, and the sacred way from his own house even to the ascent of the Capitoline hill, which is said to have appeared more wonderful than the gladiatorial exhibition itself." The word *carbasus* appears in the following translation from Lucretius—

> "As flaps the cotton spread above our heads
> In the vast theatres from mast to beam."

The story of the Vestal Virgin, from another writer of the same period, exhibits her as preserving the last sparks of sacred fire on the altar, by casting upon it her muslin head dress, *carbasus alba*.

The Roman writers did not always use the word we translate cotton in the same sense, and it requires an understanding of the context and of collateral facts to fix the meaning of the word in any particular instance. Thus, where carbasus in numerous places is mentioned as the material for the sails of shipping, linen is to be understood. In one instance a writer applying the term to an Indian fleet undoubtedly meant cotton, for of this from the earliest times sail cloth was manufactured at the East. Virgil uses the word in both senses. Pliny, one of the earliest and greatest naturalists of antiquity, whose volumes are full of light in relation to the vegetable kingdom, appears after all to have had but confused knowledge of the cotton plant. He was the first to affix the botanical name of *gossypion*, and supposed it an Egyptian as well as an Indian product. Mr. Seabrook quotes the passage which will save us the trouble of a reference.—"In Upper Egypt, towards Arabia, there grows a shrub called gossypium, by others xylon, from which the stuffs are made that we call xylina. It is small and bears a fruit resembling the filbert, within which is a downy wool, which is spun into thread. There is nothing to be preferred to these stuffs for white-

ness or softness, and beautiful garments are made of them for the priests of Egypt." Julius Pollux a century later remarks "among the Indians, and now also among the Egyptians, a sort of wool is obtained from a tree," Virgil had said long before—

"Soft wool from downy groves the Æthiop weaves."

The question then is, was cotton, or the cotton manufacture, known to the Egyptians—that nation of extreme antiquity? and, if known, to what extent as an article of clothing?

There never was any doubt as to the fact of the Egyptians being acquainted at a very early period with the manufacture of various descriptions of cloths. In wool and flax their works were carried to a high degree of perfection. A word in Herodotus descriptive of the material used for wrappers in preparing and embalming mummies, has given occasion to protracted discussions among the learned. It is not conceived clear what was exactly intended by *byssus*, the word in question. Learned authorities understand cotton, and equally learned, flax. The doubt has even been raised whether a product of the animal, vegetable, or mineral kingdoms, is intended. The contest on this point was waged for many years, and the most elaborate disquisitions given to the world. In the list of disputants are conspicuous the names of Forster, Blumenbach, Porson, Young, Hamilton, Harris, Wehrs, Voss, Heeren, Gesenius, and Rosenmuller. The world has grown wiser in some respects by the dispute, but would not in all probability have found out, had it been continued to this day, whether the Egyptians of that earlier period of the mummies were acquainted with the uses of cotton. What the learning of philology and the tests of chemistry could not unravel, has been put at rest by that extraordinary achievement of modern science, the microscope.

Mr. Thompson, to whom the world is indebted for the solution of the *vexata questio*, in a paper read before the Royal Society of England, observes that his attention was first attracted to the subject by having presented to him several specimens of mummy cloth. He remarked to Mr. Belzoni that these fabrics scarcely deserved the appellation of "fine linen," which had from all antiquity been bestowed upon the linen of Egypt; to which it was replied by that traveller, that during his researches in Egypt, he had met with mummy cloths of every degree of fineness from the coarsest sacking to the finest and most transparent muslin. The subject appearing to be sufficiently interesting, Mr. Thompson was induced to examine minutely a variety of specimens of the cloth. The experiments of Leuwenhoeck induced him to apply the microscope as a test of these fabrics; and for this purpose they were sent to Mr. Bauer, who had a powerful instrument at hand. Mr. Bauer's letter in reply was accompanied by a drawing which exhibited

the fibres of both raw and unravelled cotton as flattened cylinders, twisted like a corkscrew, whilst those of linen and mummy cloths were straight and cylindrical.

We give the concluding passages of Mr. Thompson's paper before the society, in his own language.—"Repeated observations having established beyond all doubt the power of the microscope accurately to distinguish between the fibres of cotton and linen, I obtained through the kindness of various individuals connected with the British Museum, the Royal College of Surgeons, the Hunterian Museum of Glasgow, as well as other public institutions both at home and abroad, a great variety of cloths of human mummies and of animals and birds, which being subjected to the microscope of Mr. Bauer, proved without exception to be linen. Nor has he among the numerous specimens we have both collected during many years, been able to detect a single fibre of cotton; a fact since recently confirmed by others, and proving incontestably that the mummy cloth of Egypt was linen. Their form and character the fibres retain ever after, and in that respect undergo no change through the operation of spinning, weaving, bleaching, printing and dyeing, nor in all the subsequent operations of washing, till the stuff is worn to rags, and then even the violent process of reducing those rags to pulp for the purpose of making paper, effects no change in the structure of these fibres." With Ploessl's microscope," says Mr. Bauer, "I can ascertain whether cotton rags have been mixed with linen in any manufactured paper whatever."

The origin of the word cotton is explained as follows, by Mr. Baines. The pod of the plant had been likened by Pliny to a quince, the Latin name of which is *cotoneum malum*. By a natural and common figure of language, the pod itself, and the fruit of the pod, came to be known by the same designation, and finally, *cotoneum* simply, or cotton. The Latins, however, did not themselves apply the word *cotoneum* to this plant. The Arabians called it Koton; the Italians of the middle ages, Cotone; the Spaniards, Algodon.

II. *The culture of cotton* commenced first in the East, and has been handed down for thousands of years. The Chinese have produced large quantities, but not sufficient for the consumption of the country. Importations are made from Surat and Bombay and various other parts of India, into China.

In 1823–4,....115,000 maunds. In 1827–8,....197,000 maunds.
In 1824–5,....199,000 maunds. In 1828–9,....125,000 maunds.
In 1825–6,....177,000 maunds. In 1829–30...126,000 maunds.
In 1826–7,....314,000 maunds.

Being an average of 187,000 maunds of 80 pounds each, or 15,000,000 pounds annually. From Bombay the annual import was at the last pe-

riod 40,000,000 lbs. The most remarkable fact is, that although cotton was cultivated in gardens from remote antiquity in China, yet this ingenious people never turned it into any account until the end of the thirteenth century, at which time its manufacture among them began.

The following passages from the narratives of those who have visited India, are replete with interesting information on the subject before us. Marco Polo found cotton in Guzerat, in large quantities, taken from a tree about six yards high, and bearing for twenty years. The cotton from a tree of this age is adapted only to quilting, but that taken from trees of twelve years is suitable for muslins and other manufactures of extraordinary fineness. Sir John Mandeville, in the fifteenth century, later by fifty years than Polo, says that in many places the seed of the cotton in India which we call tree wool, is sown every year, and there springs up from it copses of low shrubs, on which the wool grows.

A luxuriant field, says another, exhibiting at the same time the expanding blossom, the bursting capsule and the snowy flakes of ripe cotton, is one of the most beautiful objects in the agriculture of Hindostan. Malte Brun is equally instructive on the point:—"the cotton tree grows on all the Indian mountains, but its produce is coarse in quality; the herbaceous cotton prospers chiefly in Bengal and on the Coromandel coast, and there the best cotton goods are manufactured. Next to these two provinces, Maduré, Marawar, Pescaria and the coast of Malabar produce the finest cotton. The plant is cultivated in every part of India, the finest grows in the light, rocky soil of Guzerat, Bengal, Oude and Agra. The cultivation of this plant is very lucrative, an acre producing about nine quintals of cotton annually."*

In central Africa cotton has also been a staple growth time out of memory. It is mentioned by travellers as abundant on the banks of the Senegal, the Gambia and the Niger, at Timbuctoo, Sierre Leone, the Cape de Verde Islands, on the coast of Guinea and in Abyssinia. In hot climates also, says an authority, the cotton plant grows so abundantly, that this is the cheapest material of which cloth can be made. With such recommendations it cannot fail to continue the staple and universal manufacture of Africa.

Cotton is also of indigenous American growth. On the first landing of the Spaniards in Mexico, they found it in considerable perfection. The Mexicans are said to have been solely dependent upon this product, the wool of rabbits and hares, feathers and a fibrous plant called maguei, for their clothing materials. They had neither wool, hemp nor silk, and their flax was not used for these purposes. Out of cotton they fabricated webs of exceeding tenuity, and their cloths were woven into

* Pastoral Life and Manufactures of the Ancients, p. 331.

beautiful figures. Mantles, bed curtains and carpets they finished elegantly with mingled cotton and feathers. Cortes sent to Charles V. of Spain, "cotton mantles, some all white, others mixed with white and black, or red, green, yellow and blue, waistcoats, handkerchiefs, counterpanes, tapestries and carpets of cotton." A peculiar cotton paper was made in Mexico, small cloths of the same material constituted a part of their currency, and their warriors are said to have had cotton cuirasses. The modern Mexicans have lost the perfection of their ancient art of manufacture. The American plant was not confined to Mexico alone; Columbus found it wild in Hispaniola and on the continent of South America, where it had already grown into an article of use for clothing and other purposes. The Brazilians made their beds of it. Columbus, Magellan, Drake, Cavendish, Dampier, Van Noort, all agree that cotton was one of the articles of dress among the American savages, on the discovery of the country. At St. Salvador, the women are described as dressed in cotton coats. Even as far north, says Mr. Seabrook, as the Mes-chacebe, or Mississippi, the earliest explorers of that river and its tributary streams, saw cotton growing wild in the pod, and in great plenty. These facts, and they might almost be indefinitely multiplied, are introduced to rebut the opinion founded on the negative testimony of Capt. Cook, that the gossypium is not a native of the western hemisphere. That celebrated voyager found no cotton between New Zealand 36° South, and the Sandwich Islands 20° North. In addition to flax and the bark of the mulberry tree, in which Capt. Cook says that the inhabitants of those regions were habited, the nations all over the continent nearly, used as articles of dress besides cotton, feathers, the wool of rabbits, the maguei, and silk grass. In 1726, cotton was a staple product of Hispaniola. In 1753, Jamaica exported 2000 bags. On an average of eight years from 1740 to 1748, the export of cotton from Barbadoes was 600 bags annually. In 1787, St. Domingo, St. Christopher, Grenada, Dominica, Antigua, Montserrat and Nevis, and the Virgin Islands, exported the same commodity. In 1803 there were grown five varieties of cotton in Jamaica, the common, the brown bearded, the Nankin, the French and the Brazilian. From these facts Mr. Baines draws the conclusion that the manufacture of cotton must therefore be supposed to be coeval with the original settlement of America; but learned men are much divided as to the date of this event, some carrying it nearly as high as the deluge, and others contending for a much later period. The American manufacture may at all events claim a high degree of antiquity.

III. We are now to speak of the *introduction of cotton into Europe;* an event which has had such amazing results, and which has exerted, it is difficult to say how large an influence, upon society and upon go-

vernments. The wealth and power of Great Britain, acknowledged and felt by all the world, have a nearer connection with the cotton plant and cotton manufacture than with any other branch of industry and enterprise whatever. McCulloch is thrown into ecstasies with the reflection, and is at a loss to find language to express himself. Such, says he, however has been the influence of the stupendous discoveries and inventions of Hargraves, Arkwright, Crompton, Cartwright and others, that we have overcome all of these difficulties—that neither the cheapness of labor in Hindostan, nor the excellence to which the natives had attained, has enabled them to withstand the competition of those who buy their cotton, and who, after carrying it five thousand miles to be manufactured, carry back the goods to them. This is the greatest triumph of mechanical genius, and what, perhaps, is most extraordinary, our superiority is not the late result of a long series of successive discoveries and inventions; on the contrary it has been accomplished in a very few years. Little more than half a century has elapsed since the British cotton manufacture was in its infancy, and it now forms the principal business carried on in the country, affording an advantageous field for the accumulation and employment of millions upon millions of capital, and of thousands upon thousands of workmen. The skill and genius by which these astonishing results have been achieved, have been one of the main sources of our power; they have contributed in no common degree to raise the British nation to the high and conspicuous place she now occupies. Nor is it too much to say that it was the wealth and energy derived from the cotton manufacture that bore us triumphantly through the late dreadful contest; and at the same time that it gives us strength to sustain burdens that would have crushed our fathers, and could not be supported by any other people. But we are intruding upon another division of our subject.

In European history no mention is made of cotton as an article of trade until the fourteenth century. Though silk, woollen and flax had long been articles of wealth and commerce, cotton had no existence. In Spain, to be sure, small quantities of it were grown and manufactured as early as the tenth century, having been introduced there by the Moors, among other articles of Eastern luxury. The cultivation of the plant at this period would also appear to have been an object of attention in Sicily. In the fourteenth century a Spanish writer thus glowingly describes his country:—"here you find also the cocus, with which the cotton stuffs are dyed, for there is a great abundance of cotton as well for commerce as for use in manufactures; and the cotton garments made here are said to be far superior to those of Assyria in softness, delicacy and beauty." The Italians had little intercourse with Spain, and did not learn from her the use of cotton. It was not introduced into Venice

until the beginning of the fourteenth century. The Turks introduced the use of cotton about the same period in their conquered countries of Romania and Macedonia. The district of Seres in Macedonia, according to Malte Brun, is more fruitful in cotton than any other. The value of the article amounted in one year in Macedonia alone, to 7,000,000 piastres.

England was the last to take up this important branch of industry. The precise period of its introduction has not been determined. The first authentic mention of the staple, we are told by McCulloch, is made by Lewis Roberts, in his Treasure of Traffic, published in 1641, where it is stated "the town of Manchester, in Lancashire, must be also herein remembered, who buy the yarne of the Irish in great quantity, and weaving it, returne the same again into Ireland to sell. Neither doth their industry rest here, for they buy cotton wool in London that comes first from Cyprus and Smyrna, and at home worke the same and perfect it into fustians, vermillions, domestics and other such stuffs, and then returne it to London, where the same is vended and sold." In the early part of the eighteenth century, cotton from the East and West Indies had become an article of import into Great Britain, to some extent. But of this hereafter.

There is great difficulty in determining the exact period when cotton began to be cultivated in the different cotton sections of the United States. According to Mr. Seabrook, the culture of this staple was endeavored to be forced upon the planters of Virginia, one hundred and thirty years before the Revolution. Out of this contest of the mother country to prescribe the employment of the colony, and the resistance of the Virginia planters to the encroachment arose the navigation acts, as they are called, which prohibited the receipt or export of any European commodities other than those carried to them by Englishmen or English built ships. The act of Charles II. in a similar spirit was calculated to depress the value of tobacco, and the Virginians were driven to other crops, cotton among the rest.

In the historical collections of South Carolina, published by Mr. Carroll, there is an old paper drawn up in the year 1666, entitled "A Brief Description of the Province of Carolina, on the Coast of Florida." This was written and published in England previous to the settlement of Carolina. The object of the paper was to encourage emigrants to go over, and among other inducements it is said that the lands "grow indigo, tobacco very good, and cotton wool." In the same collections Dr. Hewett of the date —— describes the manner of cultivating the cotton plant, and speaks of it as yet not of sufficient importance to attract the attention of the colonists. Wilson, who wrote an account of Carolina in 1682, mentions cotton of the Cyprus and

Malta sort, as grown in the state from imported seed. Peter Purry, a Swiss, and the founder of Purrysburg in the same colony, memoralized the government of Geo. I. in relation to a certain country extending 33 degrees on either side of the equator capable of the production of cotton. This individual, in a paper written at Charlestown, 1731, observes, that "cotton and flax thrive admirably." The private journal of Miss Lucus, daugher of the Governor of Antigua, and afterwards the noble mother of those noble sons, Generals Thomas and Charles Coatsworth Pinkney of South Carolina, *par nobile fratrum*, contains this note for July 1, 1739, "wrote to my father to-day, on the pains I had taken to bring the indigo, ginger, cotton, &c., to perfection, and that I had greater hopes from the indigo than any other."

It is a well authenticated fact, says Mr. Seabrook, that in 1736, as far north as the 39° cotton on the garden scale was raised in the vicinity of Easton in the county of Talbot, on the eastern shore of the Chesapeake Bay. About forty years afterwards it was cultivated in St. Marys county, Maryland, and in the Northern county of Cape May in New Jersey, also in the county of Sussex in Delaware. On the breaking out of the American war, General Delagall of South Carolina is said to have cultivated thirty acres of the green seed cotton near Savannah. The congress of South Carolina, in 1775, recommended the inhabitants to raise cotton. Mr. Jefferson remarking on Virginia, in 1781, alludes to the domestic economy of making cotton goods in families for their own use. The seed from which the cotton of these sections was grown came both from Manilla and Cyprus, according to some authorities, and from Barbadoes according to others. We may suppose both varieties to be the parent stock of American Cotton.

In Louisiana, the subject of cotton would appear to have attracted notice at a very early period of the history of that province. We are informed by the letters from Paris of Mr. Forstall to Governor Roman, now in course of publication in our Journal, that, among the archives of the department De la Marine et des Colonies, there is "a most curious report on cotton in 1760, of the great advantages Louisiana might derive from its culture—the difficulty of separating the seed from the wool—its introduction from St. Domingo—a report to M. de Maurepas on that matter, suggesting the importation, from the East Indies, of machinery to separate the seed, &c." These valuable and ancient documents the Legislature of the State are taking steps to have introduced into this country—their proper repository.

Tench Coxe, Esq.,* of Philadelphia, called the father of the growth

* The following succint account of this valuable citizen we extract from Mr. White's memoir of Slater. The first ancestor of the Coxe family, connected with America, was Dr. Daniel Coxe, who was physician to the queen of Charles II. of

of American cotton, prepared a statement of the arts and manufactures of the United States in 1786. He informs us that the people of the country, south of Annapolis in Maryland, were not impressed with any belief of their capacity to produce cotton wool in any considerable quantity. From the recollections of cotton as a garden plant in his childhood, Mr. Coxe, in 1785, entertained "the pleasing convictions that the United States, in its extensive regions south of Anne Arundell and Talbot, would certainly become a great cotton producing country." Mr. Madison held the same opinion in 1786. These convictions, together with the fact of a supply of domestic cottons during the revolution, at Philadelphia, for manufacture, induced a mission to England on the part of Mr. Coxe, to obtain machinery, etc., for extensive establishments.

The treaty entered into between Great Britain and the United States, in 1792, stipulated against the importation of American cotton, in order to increase the English carrying trade of the West India cotton. We thus infer how great value Mr. Jay attributed to our cotton plant. The Senate refused a ratification of this provision.

Among the exports of Charles Town, S. C., in 1748 were seven bags of cotton wool, valued at £3 11s. 5d. a bag. Another small ex-

---

England; and also to Queen Anne. He was the principal proprietor of the soil of West Jersey, and sole proprietor of the government, he having held the office of governor to him and his forever. At the request of Queen Anne he surrendered the government to the crown, retaining the other proprietory rights. A member of the Coxe family was always appointed by the crown, while there was a resident member in the province, a member of the Royal Council of New Jersey until the revolution.

Dr. Coxe was also sole proprietor of the extensive province of Carolina, an account of which is extant in an octavo volume, written by his son, Colonel Daniel Coxe, called "The History of Carolina," a copy of which will be found in the library of Congress, the Philadelphia library, and the Athæneum of Philadelphia.

Col. Coxe intermarried with Sarah, the only child of John Eckley a judge of the Supreme Court of Pennsylvania, and left issue, among others, William Coxe, who married Mary, the daughter of Tench Francis, attorney-general of the province of Pennsylvania, Tenche Coxe was the son of William and Mary Coxe, and was born in Philadelphia 22d May, 1755, and died 17th July, 1824.

The charter of Carolina was, in the extent of territory and power, the most extensive ever granted by a crown to a subject; the family were therefore obliged to release it to the crown, in consideration of a mandamus of the king conferring 100,000 acres of land in New York. Dr. Coxe was also a large proprietor in Pennsylvania, and nearly all the American provinces. To his eldest son, Col. Daniel Coxe he gave all his American possessions, and this gentleman was the first of the family who resided in America. He arrived in this country in 1709.

We have thus been particular in our notice of the family of Mr. Coxe, as we shall afterwards have occasion to notice this large participator in the earlier operations of our manufacturing system.

port is stated for 1754. In 1770 ten bales were shipped to Liverpool from the American Colonies. The laughable incident of eight bags of American cotton being seized in England on the ground that so much cotton could not possibly be the produce of the United States, occurred in 1784 only sixty-two years ago! The export of American cotton to Europe was, in

1785,	14	bags
1786,	6	"
1787,	109	"
1788,	389	"
1789,	842	"
1790,	81	"

Of the fourteen bags sent to Europe in 1785 ten were shipped by John Teasdale of Charleston, S. C., who, it is said, bought, the year before, the first bag of cotton sold in South Carolina. From the period of 1790, from the growth of home manufactures during the war, the improvement in machinery, and the great invention of Eli Whitney, of which we shall afterwards speak, to the present day, the growth of cotton has been extending with broader and broader arms, until it embraces at last an immense region of territory, clothes and supports half the world, and affords to be heaped up in warehouses thousands and thousands of bags for future consumption. If, says a writer, the "wool sack" was a significant seal for the Chancellor of the British peers, to remind him of what was the great staple of the empire, the "cotton bag," the staple of the new world, may well be held in equal remembrance by the legislators of the Union. Every member ought to wear it as the girdle of his loins, emblematical of the bulwarks of the agricultural, manufacturing, and commercial interests of the United Republics. Every officer of the government should be clad in the productions of this superabundant article, and every citizen should be enrobed with it in life, and shrouded with it in death. It was protected in its infancy by the administration of Washington; and it has proved in its youth the defence of the beauty and booty of every section of the country.

The French in Louisiana experimented, during the interval between 1786 and 1795, in a species of White Siam Cotton, their nankeen cottons being of the Malta kind. Carolina introduced the Bourbon, and Georgia the Pernambuco—the last being received from Havana. The culture of these cottons, we are told, was abandoned on account of their inferiority. The Louisiana cotton of the present day, it is conjectured by Mr. Seabrook, was derived from a species of sea island grown at the period of the Revolution, but degenerated in the progress of tillage by intermixing with other kinds. To a cross with Sea Island Cottons,

large quantities of which were shipped to Louisiana immediately subsequent to its cession to the United States, is perhaps, in part, to be attributed the decided superiority of the New Orleans cotton wool of the present day over all others in North America, of the green seed description.

The cotton cultivated in the United States, is of the three great varities of *herbaceous*, or herb cotton; *hirsutum*, hairy or shrub cotton; *arborescent*, or tree cotton; the two former comprise the green seed, short staple or upland; the latter the black seed, long staple or Sea Island variety. The herbaceum is stated to be of Eastern origin clearly, and the hirsutum to be either from the East or West Indies. It will be a proper place to introduce some remarks upon each of the different classes enumerated.

1. The *Herbaceous* Cotton.—This plant grows to the height of eighteen to twenty-four inches, with leaves of dark green, blue veined, and five lobed. The flower is a pale yellow, one pistil, five petals or leaves, purple spotted at the bottom. On the falling of the flower a pod of triangular shape and triple cell is developed. The pod, in course of ripening, bursts, discloses a snow-white or yellowish ball of down, in three locks, enclosing and tightly adhering to the seeds, which resemble those of the grape, though of several times the size. The seed is planted in spring, and the cotton gathered at fall. The rows in the field are five to six feet apart, the distance of the holes, in which several seeds are deposited, is about eighteen inches. Much care in weeding, thinning and pruning, is required during the process of culture. This is the course pursued in the United States, which has the advantage over that pursued in India, by producing a cotton vastly more valuable. A field of cotton at the gathering, says Mr. Baines, when the globes of snowy wool are seen among the glossy dark leaves, is singularly beautiful; and in the hottest countries, where the yellow blossom or flower, and the ripened fruit, are seen at the same time, the beauty of the plantation is of course still more remarkable. The herbaceous cotton is reputed the most useful, and said to be cultivated in nearly every country congenial to the gossypium, existing even at Aleppo, in Upper Egypt, Arabia, and Senegal.

2. The *Hirsutum*, or shrub cotton.—It is said to grow wherever the herbaceous is found, and to vary according to climate, being biennial or triennial in the West Indies, lasting from six to ten years in India and Egypt, perennial in the hottest climates, and in the mildest cotton regions an annual. The shrub cotton is likened to a currant bush, and is of several varieties.—The hirsutum, a low shrub already mentioned, the *Indicum*, attaining ten or twelve feet; the *Vitifolium*, of the South of France and South America; the *Religiosum*, of Surinam and India; the

Latifolium, of the West Indies; the ***Barbadense***, of Barbadoes; and the ***Peruvian***. The pod of the shrub cotton differs from that of the herb in being egg shaped. The Guiana and Brazil cotton is of this kind, and is said to yield, in the hottest countries, two crops a year.

3. The *Arborescent*, or tree cotton.—This remarkable plant is of Indian, Chinese, Egyptian, and American growth. The height of the tree varies from fifteen to twenty feet. Marco Polo describes the tree at Guzerat six yards high, and bearing fruit for twenty years. There is a tree described in South America, Indian Isles, West Indies, and on the Guinea coast, of a hundred feet high, bearing a silky cotton, only useful for making quilting and beds. The justly celebrated ***American Sea Island Cotton*** is derived from the Arboreum. Its fibre is long, strong, silky, and of a yellowish tinge. The seed is black, and of Persian origin, though originally introduced into this country from the Bahama Islands, where it had been introduced by the Board of Trade from Anguilla, an Island of the Carribean Sea. This cotton was raised first in Georgia in 1786, and the first bag exported by Alexander Bissel of St. Simons Island, two years after. The section of country capable of producing this staple is very limited, being confined to the low sandy islands along the coasts of South Carolina and Georgia, from Charleston to Savannah. The quantity grown in 1805, and in 1832, was precisely the same.

We condense from Mr. Seabrook's valuable notes on the Sea Island Cotton, the most interesting particulars. The region of this cotton in South Carolina is bounded on the north and north-west by a line about twenty miles south of the line that separates Barnwell and Orangeburg from the neighboring parishes, on the north-east and east by the Santee River, on the west and south-west by the Savannah River, and on the south and south east by the ocean. The Eutaw Springs in St. Johns, Berkley, is the extreme northern point to which it extends. Williamsburg was for many years embraced in its limit, but that district no longer furnishes a supply of the raw material. In 1812 it was experimented on in Sumpter District, but it was found an unprofitable crop there. Mrs. Kinsey Burden, in 1788, was the first to attempt a crop of Sea Island Cotton in South Carolina, her plantation having produced it the preceeding nine years in small quantities. This was in St. Pauls Parish, and the attempt failed in consequence of the pod not coming to maturity. Wm. Elliott made the first successful crop in the State in 1790, on an island called Hilton Head, out of seed costing 14s. a bushel. This crop sold at 10½d. per pound. In 1792, a field on the Oakatee yielded 600 pounds, which sold at Savannah for 2s. per pound. During 1793 many other planters attempted the culture with various success, and Indigo and the Sea Island Cotton began to struggle for the mastery.

The enormous prices realised in past times by the planters of Sea Island cotton, has resulted in the accumulation of some of the largest fortunes in South Carolina. In 1799, one gentleman on St. Johns, Berkley, realised £78 sterling, or about $350 to the hand, in a single year: another gentleman received 3s. per pound for a crop of three hundred acres, and 216 pounds to the acre. William Seabrook, of Edisto, purchased the plantation of Mr. Brisbane, and paid out of the proceeds of two years crops the whole amount of the purchase money. The price of the cotton in the state ranged at first from 9d. to 1s., but reached 2s. and upwards about the year 1806. The staple was found to be of such unusual length, that the English spinners actually thought proper to cut it shorter, thus destroying what is in fact its chief virtue.

The finest and best specimens of sea island have been produced by the most finished practical skill on the part of some of the planters, and by an acquaintance with the principles of chemistry and botany. Kinsey Burden, Senr., of St. Johns, Colleton, S. C., occupies the first place in this list. He succeeded in producing from selected seed a parcel of fine cotton in 1805, worth 25 cents a pound more than that of any of his neighbors. Continuing his laudable labors, his crop of 1826, of 60 bags, brought in market 110 cents the pound, and his crop of the following year 125 cents. Mr. Burden's wonderful success excited quite a sensation, but his secret was kept closely for many years. William Elliott suggested that it might lie in the character of the seed used; and upon the hint several set to work. Hugh Wilson, among the most successful of these, realised the ensuing year 125 cents per pound for his product. Two bags of extra fine cotton raised in 1828, brought $2 per pound, the highest price says Mr. Seabrook, obtained in this or any other country from which cotton wool is exported. Mr. Burden's secret beginning to leak out, he proposed to divulge it to the Legislature for the sum of $200,000, but afterwards changed his mind. William Seabrook, of Edisto, had designed offering $50,000 for initiation into the method, but declined afterwards, alleging that "conjecture had yielded to certainty, that to the seed solely was traceable the fine cotton which Mr. Burden continued to grow." From that period down to the present day, the Sea Island planters have been constantly improving the quality of their staple at the expense of the quantity, and prices have fallen to but a fractional part of what they were. The result has been, that although particular instances of success are to be found, the planters as a body have been greatly injured by the production of the finest qualities of cotton.

It would be appropriate in this place to introduce a notice of the remarkable progress and improvement in the machinery for separating cotton wool from its fast adhering seed. The matter was at one time

thought a physical impossibility, but mechanical ingenuity in the person of Whitney and others, has been attended with the most triumphant success. We reserve, however, this interesting branch of our subject to be treated of in another article, under the head of *Cotton Manufactures;* it being perhaps better, for the sake of order, to take up in that place the crude cotton as it is spread over the fields, tracing out from thence every interesting change, until it appears at last in the most exquisite specimens of prints or the most delicate varieties of laces and muslins.

V. *The Cotton Trade.* Notwithstanding our statement, which is sustained by high authority, that cotton was shipped from this country to great Britain in small quantities in the year 1784–5–6, etc., Mr. McCulloch affirms broadly, that previously to 1790 North America did not supply a single pound of cotton for export, although some inconsiderable quantity had been raised even before the revolutionary war. There is a discrepancy and difficulty here which Mr. Seabrook has, we think, vainly endeavored to remove. The authorities—Drayton's "Memoirs." Smither's "Liverpool," and a work "On American Husbandry," published in 1775, are of too high a nature to be removed by any merely negative testimony. It is due to McCulloch, however, to say that the statement he has made is not unsupported from other sources. The subject, cotton, does not appear in the Charleston Prices Current of 1792; and in 1787 an English factor, Mr. Seabrook tells us without giving the authority, replied to a shipment of one or two small packages of cotton from Charleston, "it is not worth producing, as it cannot be separated from the seed." We shall not balance between the authorities, but present simply the most satisfactory explication which could present itself to Mr. Seabrook's mind under all the circumstances of the case. He says the solution is probably this: the cotton was either prepared by hand-roller gins, which were undoubtedly in use even before the war, and sold in small quantities to the merchants, who packed it for exportation; or it was sent in the seed to Philadelphia and New York, there to undergo the cleaning process. The latter supposition is based on the large amount of cotton shipped from those ports in the years alluded to, and the fact, as will be seen hereafter, that machines to disconnect the seed from the wool were employed in Philadelphia, in 1784. Farther, the condemnation of the bags subsequently exported by Wadsworth & Turpin, shows that the previous consignments must have been of clean cotton, and not in the seed, as might be conjectured.

In considering the cotton trade in its origin and progress from the earliest periods to the present day, we shall commence with the year 1790, since before that period and in the best case, the trade in this staple

must have been merely nominal. Mr. McCulloch indeed tells us, that from 1781 to 1789, a period of nine years, the whole import of cotton wool into Great Britain was only 150,000,000 of pounds, an average of about 15,000,000 of pounds per annum, or 35 or 40,000 bags of the present capacity. For one of these years, 1786, he gives the proportion of each country from which there was any import.

From British West Indies,.....	5,800,000	pounds.
" French and Spanish colonies,.	5,500,000	"
" Dutch colonies,.....	1,600,000	"
" Portuguese colonies,.....	2,000,000	"
" Smyrna and Turkey,.....	5,000,000	"
Total.....	19,900,000	

The Secretary of the Treasury, Mr. Woodbury, communicated to Congress in 1836, a paper on the cultivation, manufacture, and trade of cotton, for which we refer as authority for many of the statements we are about to make.

1.—GROWTH AND EXPORTS OF COTTON.

	IN THE WORLD.	UNITED STATES.		
YEAR.	GROWTH. pounds.	GROWTH. pounds.	EXPORTS. pounds.	EXPORT VALUE. dollars.
1790....	.....	1,500,000	250,000	.....
1791....	490,000,000	2,000,000	200,000	.....
1792....	.....	3,000,000	143,000	.....
1793....	.....	5,000,000	500,000	.....
1794....	.....	8,000,000	1,667,000	500,000
1795....	.....	8,000,000	6,000,000	2,000,000
1796....	.....	10,000,000	6,000,000	2,000,000
1797....	.....	11,000,000	3,500,000	1,000,000
1798....	.....	15,000,000	9,000,000	3,000,000
1799 ...	.....	20,000,000	9,000,000	4,000,000
1800....	.....	35,000,000	17,000,000	5,000,000
1801....	520,000,000	48,000,000	20,000,000	9,000,000
1802....	.....	55,000,000	27,000,000	5,000,000
1803....	.....	60,000,000	41,000,000	8,000,000
1804....	.....	65,000,000	38,000,000	8,000,000
1805....	.....	70,000,000	40,000,000	9,000,000
1806....	.....	80,000,000	37,000,000	8,000,000
1807....	.....	80,000,000	66,000,000	14,000,000
1808....	.....	75,000,000	12,000,000	2,000,000
1809....	.....	82,000,000	53,000,000	8,000,000
1810....	.....	85,000,000	93,000,000	15,000,000

GROWTH AND EXPORTS OF COTTON—Continued.

YEAR.	IN THE WORLD. GROWTH. Pounds.	UNITED STATES. GROWTH. Pounds.	EXPORTS. Pounds.	EXPORT VALUE. Dollars.
1811	555,000,000	80,000,000	62,000,000	9,000,000
1812	-------	75,000,000	29,000,000	3,000,000
1813	-------	75,000,000	19,000,000	2,000,000
1814	-------	70,000,000	17,000,000	2,000,000
1815	-------	100,000,000	83,000,000	17,000,000
1816	-------	124,000,000	81,000,000	24,000,000
1817	-------	130,000,000	95,000,000	22,000,000
1818	-------	125,000,000	92,000,000	31,000,000
1819	-------	167,000,000	88,000,000	21,000,000
1820	-------	160,000,000	127,000,000	22,000,000
1821	630,000,000	180,000,000	124,000,000	20,000,000
1822	-------	210,000,000	144,000,000	24,000,000
1823	-------	185,000,000	173,000,000	23,000,000
1824	-------	215,000,000	142,000,000	22,000,000
1825	-------	255,000,000	176,000,000	39,000,000
1826	-------	250,000,000	204,000,000	25,000,000
1827	-------	270,000,000	294,000,000	29,000,000
1828	-------	325,000,000	210,000,000	22,000,000
1829	-------	365,000,000	264,000,000	26,000,000
1830	-------	350,000,000	298,000,000	30,000,000
1831	820,000,000	385,000,000	277,000,000	25,000,000
1832	-------	390,000,000	372,000,000	32,000,000
1833	-------	445,000,000	324,000,000	36,000,000
1834	-------	460,000,000	384,000,000	49,000,000
1835	-------	-------	-------	61,000,000

Export Sea Island from S. Carolina and Geo., 1834....8,085,000 lbs.
" " " 1835....7,752,000 lbs.

GROWTH OF	1791. mil. lbs.	1801. mil. lbs.	1811. mil. lbs.	1821. mil. lbs.	1831. mil. lbs.	1834. mil. lbs.
Brazil,	22	36	35	32	38	30
West Indies,	12	10	12	10	9	8
Egypt,	--	--	½	6	18	25
Rest of Africa,	46	45	44	40	36	34
India,	130	160	170	175	180	185
Rest of Asia,	190	160	146	135	115	110
Mexico and S. America, except Brazil,	68	56	57	44	35	35
Elsewhere,	--	15	11	8	4	13

2.—PRODUCE OF AMERICAN STATES, AND VALUE OF THE CROP OF EACH.

	1791. mil. lbs.	1801. mil. lbs.	1811. mil. lbs.	1821. mil. lbs.	1826. mil. lbs.	1833. mil. lbs.	1834.. mil. lbs.
South Carolina,	1½	20	40	50	70	73	65
Georgia,	½	10	20	45	75	88	75
Virginia,	--	5	8	12	25	13	10
Tennessee,	--	1	3	20	45	50	45
North Carolina,	--	4	7	10	18	10	9
Louisiana,	--	--	2	10	38	55	62
Alabama,	--	--	--	20	45	65	85
Mississippi,	--	--	--	10	30	70	85
Arkansas,	--	--	--	--	¼	¾	½

These tables were compiled by the secretary from the best data within his reach.

3.—PRICE AND VALUE OF THE COTTON CROP IN THE UNITED STATES.

	Price per lb.	Val. Crop, U. S.	Crop Elsewhere.
1791,	26 cents	$333,000	$40,500,000
1801,	44 "	8,000,000	39,330,000
1811,	15½ "	12,500,000	37,000,000
1821,	16 "	30,000,000	37,000,000
1831,	9¼ "	38,500,000	29,225,000
1834,	13 "	76,000,000	36,333,000
1835,	16½ "	--------	--------

It appears on the authority of the same report of the Secretary of the Treasury, that for every thousand bags of cotton imported into England in 1790, only one bag was received from the United States, only 1 bag for every 126 in 1792; 1 in every 25 in 1795; and that in 1799 one-ninth of the British cotton imports were from the United States. In 1800 she received sixteen millions of pounds from the United States, six millions from India, one-fifth of a million from Brazil, one-third of a million from the West Indies.

4.—IMPORTS OF COTTON INTO ENGLAND.

	1820. Million lbs.	1825. Mil. lbs.	1830. Mil. lbs.	1834. Mil. lbs.	1835. Mil. lbs.
From United States,	90	140	211	266	253
" India,	23	20	12	32	42
" Brazil,	29	3	30	19	30
" West Indies, etc.,	2	8	4	1½	30
" Egypt & Turkey,	¼	14	5	1½	—

The United States supplied France in 1821 with 27 millions pounds of cotton, 30 millions in 1825, 75 millions in 1830, 79 millions in 1834, and 91 millions in 1835.

The whole stock taken by France from all the world was 44 millions pounds in 1820, 61 millions in 1825, 84 millions in 1830, 88 millions in 1834, and 94 millions in 1835. Other countries of Europe, says the Report, than those enumerated, import considerable quantities of raw cotton. Holland and Belgium 10 or 12 millions pounds. In 1830 Germany took 12 millions pounds, 19 millions in 1831, and 25 millions in 1832. The Hanse towns (1835) took from 2 to 6 millions pounds yearly, and Russia 1 million from the United States. Belgium in 1834 imported 13 millions pounds, and Lombardy 4 millions.

EXPORTS OF COTTON FROM THE UNITED STATES OTHER THAN TO ENGLAND AND FRANCE.

Years	To Russia. lbs.	Holland & Belgium. lbs.	Spain. lbs.	Trieste. lbs.	Hanse towns. lbs.	Italy & Malta. lbs.	Other places. lbs.
1821,	304,000	4,186,000	285,000	34,000	748,000	897,000	2,507,000
1822,	714,000	1,970,000	———	210,000	2,956,000	1,956,000	40,600
1823,	360,000	4,650,000	———	178,000	2,356,000	217,000.	833,000
1824,	501,000	432,000	———	———	292,000	———	227,000
1825,	134,000	1,420,000	———	———	577,000	———	509,000
1826,	15,000	4,592,000	———	33,000	2,013,000	———	1,820,000
1827,	147,000	5,861,000	8,000	183,000	3,390,000	148,000	1,440,000
1828,	650,000	3,781,000	———	980,000	3,386,000	407,000	1,072,000
1829,	228,000	9,595,000	———	4,071,000	6,858,000	1,056,000	1,261,000
1830,	111,000	8,561,000	32,000	2,814,000	4,123,000	235,000	638,000
1831,	762,000	972,000	555,000	2,778,000	2,417,000	306,000	2,243,000
1832,	839,000	3,920,000	2,834,000	1,655,000	4,075,000	581,000	2,250,000
1833,	1,447,000	2,673,000	758,000	1,107,000	1,871,000	———	1,760,000
1834,	1,260,000	6,096,000	892,000	3,805,000	6,613,000	191,000	1,153,000
1835,	947,000	5,694,000	878,000	4,943,000	2,788,000	13,000	1,494,000

Out of an import of 31,447,605 pounds of cotton in 1790, Britain exported 944,154 pounds; in 1800 the export was 4,416,610, out of an import of 56,010,732 pounds; in 1805 the export was 804,243, out of an import of 59,682,406 pounds; in 1810 the export was 8,757,109, out of an import of 132,488,935 pounds.

The following table, which we extract from McCulloch, brings down the amount of British trade in this article to 1832.

IMPORTS OF COTTON INTO GREAT BRITAIN, STOCKS, PRICES, &c.

Years.	Total Imports into Great Britain. Pounds	Stock in the Ports, 31st December. Pounds.	Total Deliveries for Consumption. Pounds.	Amount of Crop in North America. Pounds.	Average Price Uplands. Per Pound.
1814,	73,728,000	22,272,000	80,640,000	———	28*d.*
1815,	96,200,000	22,360,000	85,800,000	———	20½*d.*
1816,	97,310,000	22,355,000	88,631,000	———	18¼*d.*
1817,	126,240,000	31,034,000	108,356,000	———	20*d.*
1818,	173,940,000	85,800,000	111,800,000	———	20*d.*
1819,	137,592,000	88,452,000	108,864,000	———	13½*d.*
1820,	147,576,000	103,458,000	125,646,000	160,000,000	17 cents.
1821,	126,420,000	106,800,000	126,420,000	180,000,000	16 "
1822,	141,510,000	76,362,000	144,180,000	210,000,000	16½ "
1823,	183,700,000	105,875,000	147,125,000	185,000,000	11 "
1824,	147,420,000	64,428,000	174,174,000	215,000,000	15 "
1825,	244,360,000	123,968,000	169,264,000	255,000,000	21 "
1826,	170,520,000	100,548,000	164,640,000	350,000,000	11 "
1827,	264,330,000	134,244,000	211,167,000	270,000,000	9½ "
1828,	222,750,000	120,582,000	217,701,000	325,000,009	10¼ "
1829,	218,324,000	84,966,000	221,676,000	365,000,000	10 "
1830,	259,856,000	95,350,000	242,000,000	350,000,000	10 "
1831,	280,080,000	84,090,000	257,500,000	385,000,000	9¼ "
1832,	270,690,000	73,560,000	259,980,000	390,000,000	10 "

STATEMENT OF COTTON IN GREAT BRITAIN.

	1833. Pounds.	1834. Pounds.	1835. Pounds.
Imported	303,656,837	326,875,425	363,702,963
Exported	17,363,822	24,461,963	32,779,734
Left for consumption	286,293,015	302,413,462	330,923,229

Average price in the United States in 1833—11 cents; in 1834—13 cents; in 1835—16½ cents per pound.

From 1822 to 1835, the highest quantity of cotton which France ever took in one year from all the world, was 324,425 bags, and the lowest 169,845 bags; the mean average for the whole period being about 250,000 bags per annum.

The French, under Bonaparte, attempted to introduce the culture of cotton in France. In 1807, a distinguished agriculturalist, Monsieur Lasteyrie, was employed by that government to give instructions relative to the culture of the cotton plant. He published a treatise on the subject, entitled "Du Cotonier, et de sa culture," in which he gives an account of the various kinds of cotton in different parts of the world, and the modes of cultivating it. The Minister of the Interior also, at the same time, sent a circular letter to the Prefects of all the departments, requesting their particular attention to the cultivation of cotton, and informing them that he had sent for cotton seed to Spain, Italy and North America, to be distributed to the different departments, and offering a premium of one franc* for every killogramme (two pounds English) of cotton raised and cleaned ready for spinning. It is understood that the experiment, if ever made, did not succeed.

The following table, taken from Pitkin's Statistical View of the United States, will exhibit the amount of our exports of Sea Island cotton from 1800 to 1816. We shall in another place bring down the table to the present day.

COTTON—SEA ISLAND.

Whither exported.	1805. Pounds.	1806. Pounds.	1807. Pounds.	1808. Pounds.
Holland,	64,628	——	——	——
Great Britain,	8,563,274	6,002,617	8,728,162	941,001
France,	156,442	75,451	188,572	——
Average price,		30 cts.	30 cts.	39 cts.

* A franc is about twenty cents, making a premium of about ten cents for a pound of cotton.

COTTON—SEA ISLAND.

Whither Exported.	1809. Pounds.	1810. Pounds.	1811. Pounds.	1812. Pounds.	1813. Pounds.	1814. Pounds.	1815. Pounds.	1816. Pounds.
Russia,	67,188	—	113,435	56,700	60,000	—	—	—
Sweden,	3,023,226	202,771	19,368	1,411	667,219	—	—	—
Swedish West Indies,	173,257	—	—	—	—	—	—	—
Denmark and Norway,	30,000	109,202	—	—	—	—	—	—
Holland,	—	47,871	—	33,316	—	—	25,953	—
Great Britain,	2,266,505	4,758,783	7,688,865	3,838,390	—	—	7,010,753	8,868,054
France,	—	—	—	355,283	2,304,566	94,975	666,390	989,092
Spain,	—	50,710	—	—	49,300	—	—	—
Spanish West Indies,	397,159	—	—	10,500	218,286	413,412	—	—
Portugal,	110,444	734,739	—	—	82,428	—	—	—
Madeira,	1,002,788	—	—	—	—	—	—	—
Europe, (generally)	168,000	138,020	—	7,006	—	—	96,765	40,430
Floridas	852,461	2,510,475	—	52,500	753,050	2,011,951	645,901	—
Fayal and the other Azores	372,769	120,512	—	—	—	—	—	—
Hamburg, Bremen, etc.	—	—	—	—	—	—	4,189	—
Gibraltar,	—	—	—	—	—	—	—	2,750
Average price,	25 cts.	28 cts.	26 cts.			28 cts.	31 cts.	47 cts.

NOTE.—There was not any distinction made between the *Sea Island* and *other* Cotton, until the year 1805.

COTTON—OTHER THAN SEA ISLAND.

Whither exported.	1805. Pounds.	1806. Pounds.	1807. Pounds.	1808. Pounds.	1809. Pounds.	1810. Pounds.
Russia,	----	----	----	557,924	3,769,137	
Prussia,	----	----	----	----	----	936,579
Sweden,	----	----	----	----	9,939,934	5,234,293
Swedish West Indies,	----	----	----	----	----	168,500
Denmark and Norway,	----	----	272,134	----	2,268,827	14,484,922
Holland,	881,584	3,129,146	3,146,209	491,814	1,068,096	100,869
Great Britain,	24,007,799	18,253,840	44,452,049	7,051,592	11,099,482	31,413,132
Hamburg, Bremen, etc.,	122,003	955,400	993,342	14,860	1,067,013	976,762
France,	4,427,887	7,006,667	5,925,786	2,087,450	----	----
Spain,	----	----	----	----	796,496	4,292,055
Spanish West Indies,	----	----	----	----	534,766	55,740
Portugal,	----	----	----	----	1,733,081	2,870,142
Madeira,	----	----	----	----	3,722,280	2,936,758
Floridas,	----	----	----	----	1,059,293	10,339,019
Europe, (generally,)	----	----	----	----	771,860	1,922,232
Fayal and the other Azores,	----	----	----	----	6,139,263	4,294,091
Average price,	----	22 cts.	21 cts.	20 cts.	15 cts.	15 cts.

COTTON—OTHER THAN SEA ISLAND.

Whither exported.	1811. Pounds.	1812. Pounds.	1813. Pounds.	1814. Pounds.	1815. Pounds.	1816. Pounds.
Russia,	9,255,404	727,748	307,600	----	676,516	92,344
Prussia,	231,679	----	----	----	622,000	----
Sweden,	252,310	303,088	2,545,245	129,166	264,899	113,799
Swedish West Indies,	----	----	10,909	----	----	----
Denmark and Norway,	722,448	----	----	----	156,207	68,878
Holland	----	115,714	202,000	----	5,143,516	1,943,270
Great Britain,	39,083,587	22,248,789	----	----	38,658,339	48,925,159
Hamburg, Bremen, etc.,	1,836,288	----	41,585	----	1,346,283	1,947,050
France,	----	558,150	7,895,782	1,566,110	19,311,753	17,035,475
Spain,	228,880	----	1,045,937	----	120,186	20,793
Spanish West Indies,	----	79,117	851,381	3,069,577	136,666	----
Portugal,	----	----	1,085,774	262,336	262,858	48,848
Madeira,	----	6,153	5,288	----	----	1,525
Floridas	177,200	----	983,666	10,181,480	3,543,286	----
Europe, (generally,)	860,993	99,172	----	----	4,007,189	1,660,302
Average price,	14 cts.	----	----	13 cts.	20 cts.	27 cts.

We have brought down our subject in most of its particulars to the year 1835, and discover with regret that it has grown upon us so rapidly that we have nearly exhausted the space which is reasonable to be occupied in a single number of our journal. There yet remain ten of the most interesting years in relation to the cotton trade to be examined, (from 1836 to 1846,) and we have not yet touched upon that wide and prolific field of investigation which was to occupy the sixth head of our article,—*the future prospects of cotton.* We are forced into a change of plan, and terminate the statistics of trade here, to resume them in the May number of our journal. The subject will lose nothing of interest or value by the delay which is thus occasioned.

Before coming to a conclusion, however, we will briefly explain the different varieties of cotton which are now being brought into competition with that of American growth, or may hereafter be elevated to such competition. These varieties are comprised under the general heads of South American, Smyrna, Egyptian, West and East India Cottons.

South American.—The climate of this portion of our continent is adapted to the cotton culture in no inconsiderable degree. Brazilian Cottons are in high repute in the markets of the world, and receive the different appellations of Pernambuco, Maranham, Bahia, Para, etc. The Pernambuco is of the best description, and it enjoyed for a long period the reputation of being superior to any other than Sea Island and Bourbon. The Guiana, or Demerara is described as a strong glossy wool of superior length but of unequal fibre, well cleaned and picked but of only ordinary fineness.

Smyrna.—This is from the Levant, and supplied once almost the whole demand of Europe. For manufacturing purposes it is very inferior but answers very well from its inflammable nature for candle wicks.

Egyptian.—About the year 1823 this cotton, of the long staple species and of superior fineness, began to be imported into Europe. The Pacha, Mehemet Ali, revived its culture in Egypt after it had been suffered to decline for many centuries and entirely to fall away. The experiment having succeeded on a small scale, and demonstrated the capacity of the soil and climate, the crop from that time began to demand very general attention, and the consequence is that, at the present day, it has become one of great importance. The bags are scarcely more than half the size of those made in this country. The Sea Island cotton seed was tested in Egypt in 1827 with signal success. The crops are very irregular.

West Indian.—All the South American and most of the West Indian cotton, says Mr. Baines, is long stapled and is produced from the shrub, not from the herbaceous plant. It is supposed that some of the

first cotton grown there was in the Island of Tobago, by Mr. Robley, between the years 1789 and 1792, but in consequence of a fall in the price of cotton, and a rise in the price of sugar, that gentleman discontinued the cultivation of the former for that of the latter.

East Indian.—The cotton of the East Indies ranges lowest in quality and value. It is imported in large quantities into Europe, but, from want of skill in cultivation and in picking, excites but little regard. Every effort has been made on the part of the British authorities to improve the quality of this staple, but thus far the efforts have been fruitless, and, although millions have been expended, the desired result seems no nearer attained than at first. The policy of Britain has been to build up her East at the expense of her West India possessions, and ultimately, in the production of cotton at least, at the expense of the United States; and, indeed, if nature did not present an insuperable obstacle, the last would have long since been effected, for there has been no want of capital and enterprise on her part.

"The people of the South," we quote from an article in the Southern Quarterly, "have been dreaming that their old enemy, Lord Cornwallis, was dead, and that he would never trouble the South more. Though dead he lives in marble and on canvas in Great Britain, and in the cotton, rice, sugar, and indigo plantations throughout the British Empire in India. He was defeated, it is true, in the South, by Washington and Lafayette, but in less than ten years from that defeat he succeeded in conquering fifty millions of people in Asia, stripped Tippoo Saib of half his dominions, and, as if in vengeance for his defeat in America, raised up in Asia a powerful competition which now threatens to rob the South of her agricultural wealth. In 1698 the East India Company purchased three little villages extending about three miles on the eastern margin of the Ganges. The ground on which these villages stood forms the site of the great city of Calcutta, containing at present upwards of 600,000 inhabitants. It is the only commercial rival which New Orleans has to dread in the whole world."

It has been regarded as worthy of note that on the very day that the bill passed in England for abolishing slavery in the West Indies, an act was passed for effecting an arrangement with the East India Company, and for the better government of his majesty's Indian territories. A despotic government is then established giving to an English governor-general, or overseer, full power over the lives and property of all persons except native-born Englishmen.

Under so complete a system, the East India Company went forthwith into the cultivation of cotton on an extensive scale. They sent to the United States an agent to procure men accustomed to the improved growth of the staple in Louisiana. Eight or ten individuals of this

description were found, who, in consideration of the high inducements held out, left Nachez, Mississippi, in 1840, in the service of the Company, carrying with them seed cotton, gins, models of gin houses, etc. Their term of service was agreed upon for five years. From the manner in which Capt. Bayles, the servant of the Company, was received in this country, says the Quarterly, and the object of his mission promoted, the thought occurred to us, that the South, so famous for the refinement and intelligence of its inhabitants, was nevertheless behind the age in a species of knowledge of vital importance. On any other supposition the open-hearted generous hospitality with which they welcomed Captain Bayles, and strove to be foremost in promoting the object of his mission cannot be satisfactorily accounted for. We all know, however, that, with all the capital of the company, the judgment of the agent, and the skill of the American planters, this experiment in India has entirely failed; and that those who have returned home consider the undertaking of producing fine cotton as altogether hopeless.

We shall conclude with a remark upon American cotton. We have stated that next to the Sea Island the Louisiana is most valuable in market. The term Bowed Cotton attached to our Uplands has been thus explained:—In the East, after the operation of ginning, a large bow, made elastic by a complication of strings, is brought into contact with the cotton, the strings being struck vibrate, and thus winnow away all the dust and dirt, and leave the clear fleece. This method was at an early period in constant use in America, thus giving occasion to the use of the name we are considering.

ART. II.—RICE.

THE State of South Carolina, small in territory, in population, and in relative weight in the scale of the Union, is blest with a most delightful climate, regarding together all the seasons, and in the possession of the elements of great and lasting wealth.

In the production of her two great staples, her agriculture exercises an important influence over the comfort and well being of mankind. With the various manufactures of cotton wool, the greater portion of the human race are clothed. With the manufactured or prepared rice, the greater portion of the human race are fed—as an article either of occasional diet, or of daily subsistence.

Rice was known and cultivated in the East from time immemorial. Whenever that hitherto sealed book, the Chinese empire, shall be opened to the inspection of mankind, we may learn something more of its early history and culture—at present we only know from the books that a large proportion of the inhabitants of that ancient dominion subsist upon it, and we are told that it is grown sometimes by transplanting on the shores of the rivers, sometimes on rafts covered with earth and floating on lakes and rivers. That in some parts of China two crops are made from the same ground in one year, one ripening in May, the other in October or November. That the seeds are there white and oblong, but vary in size and form. That a small spot of ground is enclosed by an embankment, lightly ploughed and harrowed, and the grain previously steeped in dung diluted with animal water, is then sown thickly on it; a thin sheet of water is immediately brought over it, either by a stream or the chain pump. When the plants are six or seven inches high, they are transplanted in furrows made by the plough, so as to stand about a foot apart every way. Water is then brought over them, and kept on till the crop begins to ripen, when it is withheld; so that when the harvest arrives, the field is quite dry. In Japan, Ceylon and Java, aquatic rice is cultivated nearly in the same manner. To this grain the Chinese and Hindoos owe their early civilization. An immense population in those and the surrounding countries is now dependent on the rice crops; and when these fail, thousands perish of hunger.*

* The Chinese, who pay the greatest attention to the cultivation of rice, manure their lands with all sorts of filth, dung, &c.

In order to make the rice grow the better, they are careful, in certain places where they sow, to bury bolls of hogs hair or any other sort of hair, which, according to them, gives strength and vigour to the land, and makes the rice better; those whose business it is to shave the head are very careful in saving the hair till the inhabi-

BOTANICAL DESCRIPTION.

CLASS *Hexandria:* ORDER *Digynia:* NAT. ORD. *Gramina.*

Oryza Sativa—Native of Ethiopia—cultivated in tropical countries very abundantly, as well as in some of the warmer parts of Europe, in grounds for the most part artificially inundated. Annual—flowers in

---

tants of these parts come to purchase it for about a half-penny a pound, carrying it away in bags, and you may often see barks loaded with nothing else.

When the plant begins to ear, if the land be watered with spring water, they mix quick lime with it, pretending that it kills worms and insects, destroys weeds, and gives a warmth to the ground very much tending to make it fruitful.*

"Account, geographical, statistical, and historical, of Orissa proper, or Cuttach," a territory in India lying on the river Hoogly and the sea. †

Rice is the great article of produce, and consequently of food, throughout Orissa proper. In the Pergunnahs north of the Byterini it is almost the sole object of agricultural labor. The grain is in general large and nutricious but coarse, and is considered inferior to the average produce of Bengal and Behar.

The crops of Cuttach are called Sared and Beali. Of these, the first and principal one is sown in May and June, and reaped in from the middle of November to January (a second crop rare). The second in importance, called the Beali, is sown about the same time on the higher lands, and reaped from end of August to end of September.

Also an inferior description of rice, which is sown in low marshy spots at the opening of the cold weather, and by frequent transplantation and irrigation is rendered fit for cutting in the following April. The cultivation of the latter sort is called Dalo, takes place chiefly in the Pergunnahs between Khundah, the Chilka lake, and the sea.

"The Soomla or Himalaya Paddy, or Mountain Rice, received from Mr. Hodgson, resident at Nepal, appears to be of the same kind as a sample (comprising five varieties) sent to the Society of Arts, in 1821, by Dr. Wallach." ‡

"The high rice is nearly of the same quality as the latter kind," (East India Rice inferior) being dark colored, opaque, and not at all calculated for the English market.

After being cut down, the *Malsi* Rice is stacked on the field and left to become heated and to ferment six or eight days, after which the stacks are pulled to pieces and the grain separated from the straw, by shaking the sheaf and beating it a few times on the ground, is winnowed by being shaken to the wind from a shallow platter made of matt and bamboo, and dried in the sun. The grain thus treated is called hukwa, and is much liked.

Another mode is to beat out the rice with a long stick as it lays upon the ground. All the grain in the valley is separated from the straw on the field, and carried home after being winnowed, in bags and baskets. It is reaped with a sickle.

The *Chusa* is made thus: the rice in husk (dhan) being steeped in water for a day and night, is otasted for a short time on a stone or large tile heated for the pur-

---

* Du Halde's History of China (1741), p. 109.

† "Asiatic Researches;" or transactions of the Asiatic Society, in Bengal, pp. 15, 171.

‡ "Report of the London Society of Arts." Journal of the Asiatic Society for 1836, vol. v pp. 366-8.

midsummer. *Root* fibrous—*Herb* grassy, about four or five feet high —light green, smooth—leaves linear, narrow, taper-pointed. *Stipula*

---

pose; when thus parboiled, and while still soft, it is thrown into the wooden mortar and bruised into thin flat flakes, in which state, having been separated from the husks and dried, it is sold in the shops and eaten by the people. A native of Nepal, or of Bengal and Behar, will be satisfied to live on this substance alone for many days together; a small quantity of *Sukur* (unpurified, partially crystalized sugar) added, gives it a most grateful relish, to the rarely stimulated palates of these poor and primitive people.

Kuti (*Newori*), the machine for converting the dhan into eatable rice, by husking it, is the same as that for making *Surki* from bricks, hence called the *Dhenki*.*

Capt. Charles Wilkes, of the U. S. Navy, the intelligent and able commander of the recent exploring expedition, informs me that, except at Manilla, no specimens of rice were obtained by the expedition, the crops not being in a state to furnish specimens—he has obligingly furnished the following remarks: "In Brazils you have the result of Mr. Brackenridge's actual observation; he was horticulturist to the expedition. I may add that the rice of Brazil, as an article of commerce, is not esteemed in comparison with our best rice, and does not keep well; this is also the case with the rices of the Philippine Islands. Of the latter you have an account handed me for you by Mr. Rich, our Botanist, which he obtained from the best authorities. Speaking well the Spanish language, he was enabled to obtain much information, and had much intercourse with several distinguished gentlemen of Manilla who are well acquainted with this branch of cultivation.

"Instead of the word *Paddy* being applied to Mountain Rice exclusively, as Loudon has it, in the Philippine Islands and at Singapore they apply it to all Rice with the husk on; this I found invariably their practice. The rice fields of the Philippine Islands, the Water Rice, both before and after it is growing yield a large supply of fish for the inhabitants; some, it is said, much over a pound in weight and a foot in length! The only mode they have of cleaning the rice of the husk is to beat it in a wooden mortar by hand; this each family does for itself it being sold as Paddy.

"All the aquatic kinds are planted in July and August by hand, and are reaped in December. The Upland Rice comes much sooner to maturity, and is much esteemed, though they do not raise any great quantity.

"Near Singapore, there are no Rice fields yet; the country is better adapted for sugar; it is imported from Cochin China and China. We have had no opportunity of getting the information you desire, relative to the Rices of Sumatra and Java. The specimens of Rice obtained at Manilla are small and not in such a state as to be preserved for usefulness. Any description of those mentioned by Mr. Rich may be obtained from our Consul at Manilla, immediately after the crop is gathered; it will afford me pleasure to be instrumental in procuring such as you may desire."

In Brazil,† towards the base of the Organ Mountains, where the country is rich and flat, the cultivation of rice is carried on to a considerable extent. At one place, on the banks of a small river, we observed not less than seventy acres sown with rice.

---

* "Report of the London Society of Arts." Journal of the Asiatic Society for 1836, vol. v,. pp. 962-3.

† D. Brackenridge, Horticulturist, attached to the U. S. Exploring Expedition under the command of Charles Wilkes, Esq., U. S. Navy.

long, abrupt, jagged, crowning the very long striated sheath—*Panicle* terminal, much branched, many flowered, nearly erect, slightly spread-

---

The following, apparently, was the mode of cultivating it there. Dykes or dams, in breadth three or four feet, enclosed from two to three acres. These enclosures were either square or oblong, as suited the nature of the ground, which had been ploughed, made fine and level, with several furrows or runs through the centre of each, for the purpose of draining the surface. In the dykes were two or more gaps or sluices, to flood or let off the water at will. The young rice plants, when we saw them, were from two to three inches high; the ground was moist to saturation, but not flooded. We were told that water would be let on in a few days, and allowed to remain till the plants were in flower. The soil was a deep rich black earth. This culture on the part of the Brazilians resembles very much that of the Westphalians.

Several patches of rice were seen at the Sandwich Islands, near Honolulu.

The varieties of rice cultivated at the Phillippine Islands* are very numerous; the natives distinguish them by the size and shape of the grain; the following are some of the most esteemed varieties:—

Binambang—With the leaves slightly hairy, glumes whiteish, grows to the height of about five feet, flowers in December. Aquatic.

Lamnyo—Greatly resembles the above, is more extensively cultivated, particularly in Batangas, where it is the principal article of food among the inhabitants of the coast.

Malagequit—This variety derives its name from its becoming very glutinous after boiling; it is much used by the natives in making sweet and fancy dishes, but is considered unwholesome; it is also used in making a white-wash,† which is remarkable for its brilliancy and for withstanding rain, etc. Aquatic.

Bontot Cabayo—Common in Ilocos, where it is cultivated, both upland and in water; it produces a large grain, and is therefore much valued, but it has rather a rough taste.

Dumali—Or early rice. This variety is raised in the uplands exclusively, and derives its name from ripening its grain three months from planting; the seed is rather broader and shorter than the other varieties; it is not extensively cultivated, as birds and insects are very destructive to it.

Quinanda—With smooth leaves. This variety is held in great estimation by the people of Batangas, as they say it swells more in boiling than any other variety. It is sown in May and gathered in October. Upland.

Bolohan—This variety has very hairy glumes; it is not held in much esteem by the natives, but is cultivated on account of its not being so liable to the attacks of insects and diseases as most of the other upland varieties.

Malagequit—Smooth leaves, glumes red, in all the above they are whiteish, it possesses all the qualities of the aquatic variety of the same name, that of becoming very glutinous after boiling, etc. This rice is said to be a remedy for worms in horses, soaked in water with the husk on. It is given mixed with honey and water.

Tangi—Leaves slightly hairy, glumes light violet color. This upland variety is much esteemed for its fine flavor.

---

* Mr. Rich, the Botanist attached to the United States Exploring Expedition, under the command of Charles Wilkes, Esq., U. S. Navy.

† Small Rice is used in the lower parts of Carolina for making white-wash with lime; and with good effect.

ing; its branches angular, rough. *Flowers*, when closed, obovate, oblique, or most gibbous at one side; their corrolla somewhat hairy, minutely granulated or dotted. *Awn* straight, rough, various in length.

Rice—A plant cultivated in the East, in America, North and South, —in Africa, Spain, Italy, and Piedmont. Its stalk not unlike that of wheat, but fuller of joints, and with leaves resembling those of the leek. It branches into several stems, at the top of which the grain grows in clusters, and each is terminated with a beard, and enclosed in a yellow rough husk. When stripped of this, the seed appears to be oval in shape, of a shining white color, and almost transparent. One species, several varieties.

1. Common Rice—Stem four feet high—Panicle spiked, simple—Husk pale, oblong, with long awns or beard, a late sort—grows in moist places; injured by either drought or salt water.

2. Early Rice—Stem three feet high—Panicle spiked—branched; husk tinged, brownish-red; awns shorter—grows in marshy places, is not injured by salt inundations.

3. Mountain Rice—Stem three feet, more slender—Husk longer, the awns very long—grows in dry situations; exposed to cold—exposed to continued inundation, it decays—sea-water kills it.

4. Glutinous or Clammy Rice—Stem four feet high, leaves wider, yellowish—Panicle large, with shorter awns—seed oblong, rather large, glutinous, very white—grows in both wet and dry places.

There is a variety having a black seed highly flavored, as well as another having red seed. Rice seems to contain more silex in its composition than most of its natural order. Even the seed is not destitute of this substance. Brilliant imitations of precious stones, are said to have been made of rice, for which purpose a large quantity of the grain is required.*

Oryza—from the Arabic *Eruz*.—In modern Europe *Riz, Reis, Rice.*

Oryza sativa, the common rice, has the culm or stem from one to six feet in length; annual, erect, simple, round, jointed; leaves subulate-linear, reflex, embracing, not fleshy, flowers in a terminal panicle; calycine, leaflets lanceolate, valves of the corolla equal in length, the inner valve even, awnless; the outer twice as wide, four grooved, hispid, awned; style single, two parted.

Oryza mutica, the dry or mountain rice, cultivated in Ceylon, Java, and of late in Hungary, has the culm or stem three feet high, and more slender; fruit longish, with awns the longest of all. It is sown on mountains and in dry soils; rots with a long inundation, and perishes with sea water.

* Rees' Cyclopedia—Art. Oryza.

The varieties of rice, as of other cultivated grains, are as numerous as the different soils, climates, and other physical circumstances, in which it is cultivated; besides the dry rice, the chief sorts, by some considered species, are the *O. præcox*, or early rice, and the *O. glutinosa*, or clammy rice, both cultivated in irrigated lands.

The native place of rice, like that of the other sorts of grain in common use, is unknown.

In the hilly parts of Java, and in many of the Eastern islands, the mountain rice is planted upon the sides of hills, where no water but rain can come; it is, however, planted in the beginning of the rainy season, and reaped in the beginning of the dry season. The natives call it *paddy gunung*, which signifies mountain rice. It is entirely unknown in the western parts of India, but it is well known in Cochin China, where it thrives in dry light soils, mostly on the sides of hills, not requiring more moisture than the usual rains and dews supply, neither of which are frequent at the season of its vegetation.

There is a kind of hill rice which is hardy enough to grow on the edge of the Himalayan snows; it is almost to be expected that this will, at some future time, prove an acquisition of value to the European cultivator.

In Lombardy and Savoy, rice is sown on rich lands, the sower often wading to the knees in the water; one crop a year only is obtained, but four crops are often taken in succession.

In Westphalia, and some other parts of the south of Germany, rice has long been cultivated; there it is sown on lands that admit of irrigation, but water is not admitted till the seed has germinated, and it is withdrawn, as in Italy, when the crop comes into flower. From long culture in a comparatively cold country, the German rice has acquired a remarkable degree of hardness and adaptation to the climate, a circumstance which has frequently been alluded to as an encouragement to the acclimating of exotics. It is found, Dr. Walker remarks, that rice seeds direct from India will not ripen in Germany at all, and even that Italian or Spanish seeds are much less early and hardy than those ripened on the spot. In Hungary rice has not been long cultivated; the mountain sort has chiefly been tried, and that in the manner of our barley or summer wheat.

In England a crop of rice has been obtained near Windsor, on the banks of the Thames.

By far the best imported rice is from Carolina; it is larger and better tasted than that of India, which is small, meagre, and the grains frequently broken.*

---

* Loudon's Encyclopedia of Plants—Art. Oryza.

The varieties of rice which are most common with us in Carolina, are,—

1. The *Gold Seed Rice*, the ordinary crop rice most highly esteemed, and therefore universally cultivated, an oblong grain 3-8ths of an inch in length, slightly flattened on two sides, of a deep yellow or golden color, awn short; when the husk and inner coat are removed, the grain presents a beautiful pearly-white appearance—an ellipsoid in figure, and somewhat translucent. This rice has been introduced into the Winyaw and Waccamaw region, since the revolution. It was planted by Col. Mayham, on Santee, in 1785.

2. The *Guinea Rice*, so called from its resemblance to one of the varieties of Guinea corn, in the shape of the head and clustering of the grains. In color the same, or perhaps a little deeper, the grain of this variety is in shape both broader and shorter, but not thicker than No. 1. In figure, a sort of oblong spheroid, compressed on two opposite sides, so as to be nearly twice as broad as it is thick; awn short, blunt; it is not cultivated as a crop, and is rarely met with.

3. The *Common White Rice*, in shape and general description like No. 1, except that the color of the husk is white or cream colored, and the grain when hulled is not as broad, nor as pearly; awn short. Some grains of this mixed with a sample of Seed Rice, constitute an objection to it, although it is this variety that constituted the earlier crops of the country.

4. The *White Bearded Rice*, very much the same as No. 3, in general characteristics. The grain of this kind is rather larger, and is furnished in its unhulled state with a very long awn or beard—grows well on high land. A sample of this last was brought from the East Indies in 1842, by Capt. Petigru, U. S. Navy. Some years ago it was cultivated more or less extensively by planters for their negroes.

There are several other kinds of rice in appearance, to be found in both the fields and the barn-yards, differing either in the size and shape of the grain, or in the size and appearance of the stem and leaflets. They are believed to be modifications of either one or other of the foregoing descriptions; none of these have, as yet, established a sufficient claim to be classed as distinct varieties.

They may be classed as

1. An improvement of the grain chiefly cultivated, arising from a long-continued, careful selection of seed, the vigorous nature of the soil in which it was successively planted, the peculiarities of the cultivation pursued consistently from year to year, and other circumstances. Of this character, it is believed, is the large grain rice so successfully produced by Col. Ward.*

* See Report of Committee on Rice to the State Agricultural Society of South Carolina, 1843, for Col. W's account of this grain.

2. A commingling of the grain, arising from a careless selection, or a neglect of selection of seed—and two or more of the foregoing varieties being planted in the same field, or in closely adjoining fields—the farina of each fructifying some plants of the other, etc.

3. A corruption or deterioration of the grain, arising from utter neglect, and exposure of the seed to the vicissitudes of weather from year to year, or the being covered so deep, in either earth or water, as not to have vegetated for years.

Of this last, the Volunteer Rice affords examples, viz:—the red grain having the same exterior husk as No. 1, with perhaps the awn a little longer—the red grain having a white husk like No. 3; and the red grain having the husk white like the last, with a longer awn, and dropping from the stem in the field as soon as it is matured—this kind of volunteer never can be harvested on the stem; it is sometimes stripped into bags and baskets, and used as horse and poultry feed. In either case, whether the grain has dropped from being touched, or has been stripped off for use, the stem, relieved of its superincumbent weight, stands erect, and towers above the worthier and well freighted heads of the surrounding fields. Hence it is called, in the vernacular, "Proud Rice."

The cultivation of rice in Carolina has added materially to the wealth of the province—the colony—the state; and has enhanced, in no inconsiderable degree, the value of the active commerce of both the kingdom of Great Britain and the federal republic of the United States.

It is destined to add still further to the productive wealth of our country. The consumption of rice, it is believed, will continue steadily to increase in proportion as the various uses of this valuable grain shall be more generally ascertained, and rendered familiar in the useful and ornamental arts, as well as in its culinary preparations, as an ordinary vegetable, or a delicate luxury.*

---

* The following methods of preparing rice in the Cuisine, though common with us, may not be found in all the manuals of house-keeping. They are deemed not unworthy of being noticed.

To boil Rice.—Pick all the specks and gravel from the rice, then wash it thoroughly in cold water, have your pot of water boiling, add salt, and then put the rice in and stir it while boiling, let it boil four minutes, then pour off the water as close as you can, without stirring the rice, set the pot on some coals and cover it; let it remain twenty minutes, then dish it up for use. Prepared thus, it is the most simple among vegetables, is palateable, nutricious, and light. When boiled, rice is increased in bulk some 150 per cent., and in weight over 100 per cent. For dyspeptics there is no vegetable so innocent.

Rice Breakfast Bread.—Mix a spoonful of butter with some hot hominy, very

By this grain a large portion of the human race actually subsist, and it is believed it may be yet more universally consumed. It is a vegetable which undergoes no very material change, from change of climate. When put up for exportation, it deteriorates less than any other grain or breadstuff whatever, and when cleaned and brushed in the best manner, it will keep sufficiently sweet and sound during the longest voyage.

Indeed, rough rice, or rice in its primitive state before the chaff or husk has been removed, may be kept fresh and sweet for years; even should it, for a moment, have been immersed in water, the sun's warm rays, and a little dry air, effectually preserve it for a long time. One hour is sufficient to reduce a bushel of rough rice (one-half) to a state fit for cooking; and the only instrument requisite is simply a wooden mortar and pestle.

Professor Liebig, in a note to his admirable and valued work on chemistry, as applied to agriculture and physiology, p. 98, furnishes a chemical analysis of rice, in terms substantially the same as those in which the same analysis by Braconnot is given by Berzelius. Accord-

---

thoroughly, and spread it to cool, then beat up an egg very light, add some milk, then mix in the hominy with rice flour† until it is a thick batter, add salt, *q. s.*, stir it well, then drop it from a spoon into an oven and bake quickly.—*Vaux.*

Another Rice Bread.—Have a bucket for the special purpose—mix over night some hominy, or the eyes of the rice, boiled soft, with milk and rice flour, having added salt *q. s.*, into a stiff batter, so that it will just pour—set it where it will not get warm, which injures it; in the morning stir it, pour it into the pan and set it to bake.—*Gallavant.*

Griddles for Breakfast.—Mix a thin batter with milk and rice-flour, adding salt *q. s.*, have your griddle-iron hot, grease it with lard, pour some batter on, spread it thin, turn it and brown it both sides.

Rice Glue.—There is also a very good glue made from rice, by boiling the ground rice in soft water till it acquires the consistency of a thin jelly.—*Ency. Am.* This is one of the best cements for china-ware, shells, &c.

Starch from Rice,—This is said to be finer, whiter, and better, inasmuch as a given quantity will go further than that produced from wheat. The manufacturers, however, allege that the material is too costly to justify their using it in making starch. Moreover, the difficulty of separating from it the gluten contained in this grain, is an obstacle in the way of its use. It is to be hoped that some of our chemists will yet discover a more ready and certain method of completing this process.

---

† Rice flour is obtained by pounding into powder in a hand mortar the requisite quantity of milled rice—two quarts of rice will make nearly three quarts of flour. This is the best way to prepare it for immediate use; if kept, it soon becomes acid. It is sometimes ground by the mills This keeps very well, but the rice cannot be so completely pulverised when ground. It is prepared thus at the New York Steam Rice Mill, and packed in barrels for exportation.

ing to the analysis of Braconnot, *Ann. de Chim. et de Phys.* t. iv. p. 370, this grain is thus constituted:—

	Carolina Rice.	Piedmont Rice.
Water,	5.00	7.00
Starch,	85.07	83.80
Parenchyma	4.80	4.80
Gluten,	3.60	3.60
Unchrystalizable Sugar,	0.29	0.05
Gummy matter approaching to starch,	0.71	0.10
Oil,	0.13	0.25
Phosphate of Lime,	0.13	0.40
	99.73	100.00

with traces of muriate of potash, phosphate of potash, acetic acid, sulphur, and lime, and potash united to a vegetable alkali.

Vauquelin was unable to detect any saccharine matter in rice.—*Thomson's Organic Chemistry*, p. 883."

EARLY INTRODUCTION AND CULTURE.

As early as the year 1666, the facilities afforded by the character of the low country of Carolina for the cultivation of this seed, were remarked by agents of the English interested in the settlement and improvement of the new world.* In less than forty years from that time the swamp seed was actually introduced and successfully cultivated in South Carolina.

It happened thus, by accident.† Landgrave Thomas Smith, or Smyth, as honest John Archdale wrote the name, on a visit to the East, before coming to this country, had observed the plant and some of the circumstances attending its culture. After settling in Carolina, it occurred to him that the low grounds and climate of the country were admirably adapted to this culture. Earnest in this opinion, and desirous of an opportunity to test its value by experience, Providence brought within his reach the only means necessary to do so; and thus by his instrumentality, bestowed upon a portion of the new world a great and permanent blessing. In the year 1694, after Landgrave Smith, dis-

* In "A Brief Description of the Province of Carolina on the coasts of Florida, etc., printed for Robert Horne, near Bishopsgate street, London, in 1666," (the charter of Carolina is dated the 30th of June, in the 17th year of the reign of Charles II,) "it is mentioned, among other things, that the marshes and meadows are very large, from 1,500 to 3,000 acres and upwards, and are excellent food for cattle, and will bear any grain being prepared: some cattle, both great and small, will live well all winter, and keep their fat without fodder. The meadows are very proper for rice, rapeseed, linseed, and many of them be made to overflow at pleasure with a small charge.—2 *Car. Col.* 13.

† Ramsay's History of South Carolina, chap. 5th.

satisfied with the province, had entertained thoughts of quitting it, a vessel from Madagascar, in distress, put into the harbor of Charleston, having on board a little rough rice, in the cook's bag. This rice was given to Mr. Smith, who planted it in a low, moist part of the garden, at his residence near White Point.* The plant grew luxuriantly, and the grain matured finely. The product was wisely and liberally disseminated as seed among the neighboring planters, who in their turn supplied other planters living more in the interior; and so on till this became the chief article of production, the staple commodity of the colony.

There is extant another account of the introduction of this valuable seed, which refers it to the year 1700† or thereabout, and associates with it the name of another gentleman, a Mr. Woodward.

It is further recorded‡ that a Mr. Du Bois, Treasurer of the East India Company, did, some short time after, send out to this country a small bag of seed rice. Whether these were distinct and successive importations, which is highly probable, and whether or not there were two or more varieties of the grain introduced, certain it is, the seed was so rapidly dispersed along the rivers, and inland swamps, that soon the province became a rice-growing country. And since, under different forms of government, as a colony of Great Britain, and as a sovereign state, constituting an integral part of the United States, under a federal republican form of government, the principal staple production of South Carolina has been the best rice in the world.

At first, rice was cultivated on the high land, and on little spots of low ground, as they were met with here and there. These low grounds being found to agree better with the plant, the inland swamps were cleared for the purpose of extending the culture. In the process of time, as the fields became too grassy and stubborn, they were abandoned for new clearings; and so on, until at length was discovered the superior adaptation of the tide-lands, and the great facilities for irrigation afforded by their location. For these, the inland plantations were gradually and slowly abandoned, until now, that the great body of land which little more than a century ago furnished for exportation over 50,000 barrels of rice, now lies utterly waste, constituting, where trees have not overgrown it, the finest natural pasture which could be desired.

As may very well be supposed, the seed was, at first, very sparingly

* A spot now traversed by Longitude Lane.

† In new land, well drained, under favorable circumstances, from one grain may be matured 24 ears or heads, carrying each from 10 to 380 grains. There is a tradition, that some forty years ago, a stalk of rice having 60 branches or tillers, was seen at the old butcher-pen, near Georgetown. There was grown the past year in the garden of Dr. E. T. Heriot, a plant from one grain having 70 branches.

‡ 2 Carolina Col., p. 270.

sown, and the ground, being new, furnished an immense yield in return.

A peck of seed to the acre, sown thin in drills, eighteen inches apart, would, on good land, yield thirty, forty, fifty, and even sixty bushels, in proportion to the care bestowed on its culture.

As the grain became more plenty and common, and the space between the drills was slightly diminished, the quantity of seed was by little and little increased.

It is now from two to three bushels per acre, varying according to the character and condition of the land, and the peculiar notions of watering entertained by the planter—a free use of water justifying, and indeed requiring, a liberal allowance of seed.

The space between the drills now, from centre to centre, is thirteen, fourteen or fifteen inches—the best distance is thirteen inches, where water is used freely—the dry culture requires a more frequent use of the hoe, and therefore the largest space is preferable.

The average product of rice land at present varies from twenty-five to sixty bushels per acre, generally increasing in quantity, though deteriorated in quality, in an inverse ratio to latitude.*

The seed should be selected with the greatest attention to purity and maturity of the grain. A sample containing one red grain in one hundred grains, is considered by the best planters inferior. Seed rice, having a greater proportion of red or volunteer rice than one per cent., is totally unfit for planting. To procure the most mature rice for seed, a good plan is to thrash the rice over a barrel or large log, the butt of the sheaf being held by both hands. In this way the riper grains alone are whipped off, serving as seed; whilst the remainder on the sheaf is thrashed off in the usual way.

Product.—Within seventy degrees of latitude, radiating from the equator, this valuable grain is cultivated all over the globe—even in the Himalaya mountains there is said to be a variety naturalized and grown†—another, or possibly the same, in Siberia. From climate and peculiar treatment, the vegetable rice acquires a certain constitution, adapting itself to the habitude of the region in which it grows, it does not so readily succeed elsewhere, until it is acclimated by time. Grown in India, in China, in most of the Asiatic islands, in Southern Europe, in Africa, in South and North America, each country yields it own peculiar seed.

---

* The higher the latitude, generally, the better the rice in quality:—hence planters look to the northward of their own locality for their seed rice, when it can be obtained thence comparatively free of volunteer.

† Ency. Am.

In North America, although there is known on the margins of some of the Northern lakes a kind of wild rice, which, when that country was in a state of nature, furnished no little subsistence to the aborigines, yet it is scarcely cultivated north of the state of Virginia. The census of 1840 exhibits the following scale of production in the United States.

Taking the crop of 1839 as a basis—

Missouri produced	65	lbs. rice.
Illinois, "	598	"
Virginia, "	3,084	"
Arkansas, "	5,987	"
Tennessee, "	8,455	"
Kentucky, "	16,848	"
Alabama, "	156,469	"
Florida Territory	495,625	"
Mississippi produced	861,711	"
North Carolina produced	3,324,132	"
Louisiana produced	3,765,541	"
Georgia produced	13,417,209	"
South Carolina produced	66,897,244	"

As it is only in tide-water swamps that this grain can be cultivated to advantage, and therefore only in such lands that the culture will probably be extended, the system of culture pursued on the tide-lands of Carolina, only will be detailed.

The swamp and marsh lands in this region, when in a state of nature were overflowed by the tides in ordinary times. In the time of spring tides, they might have been found covered at high water to the depth of from twelve to twenty inches. When reclaimed they are furnished with a sufficient dam to exclude the tide-water, and a trunk, or framed culvert, furnished with a door at each end swinging upon long levers, which are attached to sturdy uprights, so as to admit or exclude the tide at pleasure—retain or discharge it, after being admitted. The large enclosure is subdivided by cross-banks, or dams, into fields of convenient size, containing variously from fourteen to twenty-two acres. In constructing the banks, large ditches, five to eight feet wide, are excavated to the depth of five feet, leaving between the ditch and bank, a margin of twelve feet or more. These serve to drain the field. From one of these ditches to another, in one direction, and at the distance of 37½ to fifty feet apart, are cut smaller ditches or drains, eighteen inches wide, and three feet deep. Thus thoroughly reclaimed, and completely drained, the swamp, if well seeded, will produce abundantly from the first. The following remarks, however, will be understood as applying to old land, from the surface of which stumps and marsh have entirely, or for the most part disappeared. In this condition are now found most

of the lands in the rice-growing region. Fields, as they become exhausted by long continued cropping, are revived by manuring with rice straw and tailings, or by turning under the spontaneous growth of a dry fallow for one or more years.*

---

* Southern Agriculturist, N. S., vol. iii. p. 243.

* Mount Arena, Nov. 8, 1843.

Col. R. P. W. Allston.

Your queries respecting the varieties of rice, &c., remind me of my promise to give you the result of some of my experiments with rice straw and tailings, as manure to rice land. Whenever they have been put upon my fields which had been making small crops, the effect has been satisfactory, and it has become a part of the system of my plantation.

In the month of November, 1839, I caused the stubble of two fields, one fifteen the other ten acres, to be listed four feet apart, and parallel with the drains; after which a furrow was made on each side with a large plough; the land unbroken in the centre was then drawn upon the beds with hoes—during the time of threshing, the straw and tailings were carried in a large flat, and each load was distributed between the beds of one acre, until the whole was covered. In this state they were left until the last week in June, when all the volunteer rice and grass was hoed down, and the beds reversed with ploughs and completed with hoes. The ditches and drains were then cleaned, and the fields were planted in peas, set in chops about a foot apart—the land was in good order, and the peas grew luxuriantly and made a fine crop—no volunteer rice, and as little grass as possible was allowed to go to seed.

In the first week of April, the vines were cut down, and the beds levelled with ploughs and hoes. This was very easily done, as the land was dry and remarkably loose—they were then trenched in the usual way thirteen inches from centre to centre—two bushels and twelve quarts of rice were planted to each acre, and the seed was well covered with earth. During the cultivation, the common plan was pursued, *i. e.* sprout, point, long, and lay-by flow—two hoeings between point and long-flow, two after, and one picking in the water. The crop was well saved, and produced within a fraction of seventy-three bushels to the acre. The straw and chaff of this rice was of a much brighter color than any other made upon the plantation, and the grain was of superior quality—1970 bushels of rough rice, made from land treated in the manner described, was pounded at the Georgetown Steam Mill last winter, and turned out—

Tierces, 600 *lbs. nett.*

98,157 lbs. prime rice,
5 barrels middling, and
3 ditto small, with
193 ditto flour.

I cannot say what had been made upon these fields for the three or four previous years, but on reference to the plantation book, where an account had been kept, I found the average crop from them to have been thirty-three bushels and a fraction to the acre.

In some of my fields I have planted oats upon the beds, one and sometimes two rows, and these have, in some instances, been followed by potato slips, which succeed remarkably well; and it may be worthy of notice, keep fully as well, if not better than those made upon high land.

Preparation.—The land is ploughed, or dug with the hoe, as early in the winter as can be—if before Christmas, the stubble is turned under—if later, the stubble is burned off. The land is then covered with water during any warm changes of weather in winter, and exposed to the frost when it is colder. In March the field is kept dry, the drains are cleansed, the upturned clods are broken, and the whole levelled with the harrow or hoe. The field is trenched in a direction across the drains, with a hoe made for the purpose, to open a trench of from 3 to 5 inches in width. The trenches or seed-furrows will be 13, 14 or 15 inches apart from centre to centre. In April, and until the middle of May, the rice is sown in these trenches, say 2¼ bushels of seed to the acre of 45,000 square feet.

Dry Culture.—The seed is covered lightly with a light board

Although the rice thus made received as much work as is usually bestowed under the best cultivation, yet it was not bestowed from its seeming to require it, but from the fact of its being convenient to do so in turn with other fields of the plantation. I believe as much might have been made with two workings, as the grass had been so completely destroyed, and the land so thoroughly opened previously, that but little remained to be effected by the hoes. From subsequent observation, this land is much more easily cultivated, and with proper care some years must elapse before the volunteer rice and various grasses regain their standing.

Which of the three means employed in this plan is of the most importance, is to be determined—thoroughly breaking the soil, with the destruction of volunteer rice and grass seed, change of crop and culture, or the application of the rice-straw.

The work laid out in this manner ought not to be considered as altogether additional, but very much as given in advance, and at a time well suited to it—as when the rice planting season arrives, it will be found as before remarked, to require very little more—after which its state of preparation for a good crop will far exceed any condition that could be brought about by the means at command during the winter season.

From the observations which I have made since my attention was first drawn to this matter, it appears that it would be profitable for such persons as plant weak or impoverished land to subject one-fifth of the quantity annually planted, to this mode of treatment. From the increase which might be obtained in the first crop, a considerable return, if not all, would be made for the loss of a rice-crop on the land for one year, and the balance, if any, would be soon made up by the succeeding crops—besides the advantage gained from the increased fertility of the fields for some years; the enhanced value of their production from the superior quality of the grain, and the diminished labor during the cultivation of the succeeding crops.

Impoverished rice land is particularly susceptible of improvement from manure, as may be often seen when fields are so situated as to receive the washings, by rain of adjacent corn or potato fields annually manured with rice straw; and it is more lasting in its effect than might be supposed, as is proved by the marked difference in rice growing in fields where cattle-pens or feeding-troughs had been placed, often many years before.

With great regard,

EDWARD T. HERIOT.

attached to a hoe handle, and the field is inundated from 4 to 6 days, just long enough to swell the grain, and prepare it to sprout. As soon as it is sprouted, and the plants become perceptible, like so many needle points above ground, the water is again put on for 4 or 6 days, according to the warmth of the atmosphere.

With water cover.—The more common practice now in the neighborhood of the writer, is not to cover the seed with earth, but to "clay"* it first, and after sowing, to flood the land forthwith, making the "sprout" and "point" water, one and the same. The method first mentioned is the best for early planting, though the labor required is greater. After the season is sufficiently advanced for the grain to germinate quickly, the "open" planting, less laborious, is equally certain, and by some persons is considered more certain to procure a regular and even stand. In all his early planting, *i. e.* until the middle of April, the writer allows three bushels of "clayed" seed to the acre. His trenches are fourteen inches apart from centre to centre, and five inches wide—the seed is scattered in the trench. He uses the water freely.

When the plant is five to six weeks old, the earth is stirred with the hoe; in ten days more, the hoe is again used, and the "long-water" put on for two weeks or thereabout; deep the first four days, then gradually diminished until the plant, somewhat recovered from the exhaustion occasioned by its rapid growth under water, stands up erect, and begins to throw out a new root; the water is then drawn. About eight days after, when the field is quite dry, a very deep hoeing is given, and the plant left undisturbed until it is prepared to form a joint; so soon as this

* The process of "claying" rice, was introduced some where about the year 1826, by that judicious, practical man, and observant, experienced planter, Capt. John H. Allston, of Prince George Winyaw. It may be thus described—take two large tubs, say the two halves of a hogshead; fill one with water three-fourths full, add to it three or four baskets or more of good red clay; stir it well until the clay is dissolved and the water has taken up a sufficiency of it to feel clammy between the fingers. Pour off this water into the other tub, into which also measure as much seed rice as the tub will hold without wasting; stir it about until every grain has been wetted by the clayed water, taking care to pause every now and then for the purpose of skimming off the grass seed, and light rice, which rise to the top and float on the surface. Then dip out the seed rice in sieves, allowing the water to drip back into the tub, and spread it in the barn to dry for the next day's sowing. Put more seed into the tub, and, when requisite, a fresh supply of clayed water, prepared as before, and so on.

The advantage of this preparation is that the grain, furnished on its exterior husk with a hairy fuz, retains about it, (after being dried sufficiently to be handled in the sowing,) particles of the tenacious clay; this, on the grain in the trenches being reached by the water with which the field is flooded immediately after sowing, makes it adhere to the earth, and of course prevents the seed from floating.

is apparent, the field receives a light dressing with the narrowest hoe, and is "laid by," *i. e.* the "joint water" is put on to remain until the grain is matured, which is usually two months from this time. A few days before cutting, the water is run off, and the ditches washed out by the succeeding tide. The rice is cut with a sickle, (task, one quarter of an acre to the hand, to cut and carry,) and laid carefully across the stubble to cure, till the succeeding day. The dew off, it is then bound in sheaves of convenient size, just as wheat is, and packed in large floats, bearing five to seven acres, to be conveyed to the barn-yard. There it is stacked temporarily in small ricks, and when thoroughly cured, put away in large stacks made to contain from 200 to 400 bushels each when thrashed.

The thrashing is performed, almost universally, by a labor-saving machine; and the grain is cleaned and prepared for market by means of the pounding-mill.

*Water Culture; or "sixty days system."**—The land is flowed soon after harvest, for the purpose of sprouting the volunteer and scattered rice, until the winter sets in; it is then dried, and kept dry. As early as practicable, the stubble is burned off. The ditches and drains are well cleansed at convenient times, and the land is turned late—a short time previous to planting. After this the prepartion is as usual—the trenches are fourteen inches† apart from centre to centre, and are opened four inches wide. The seed, after being "clayed," is scattered in the trenches, allowing two bushels and twelve quarts to the acre. The water is put on so as to cover all the hills, and kept so until the sprout of the rice is green, and the blade well opened; or until the rice begins to float. The water is then slacked down, until the tops of the plants show out on the level land not regarding the low places. At this level it is held until the low places come out; it is then raised gradually every three or four days, until about six inches deep on the level parts of the field; at this it is held—observing to freshen the water every other night. As soon as the plant is sufficiently strong, the water is slacked down quite low, the hoe is dragged through between the trenches, and the hands pick out the long grass, weeds, and rushes. The water is then forthwith returned up to the same mark as before. This working

* Reduced to a system by Mr. Archibald Ligett, of Winyaw, who has politely furnished this synopsis. Mr. L. thinks, and very properly, that the practice of making rice with water altogether is a vicious one, and should be resorted to only where the land is in such bad order, that the labor of planting would not be compensated by any other.

† Various distances, from twelve to sixteen inches, have been tried by Mr. L., and he has decided upon fourteen inches as the best. The writer's experience confirms this decision.

should be given about ten days before drying the field, as, soon after it is done, the plant puts out new roots, by which it is sustained and prevented from "checking" when the water is drawn. In drawing this water, the condition of the plant must guide the judgment. In ordinary seasons, the first planting may be dried in forty-five or sixty days, the last planting in forty to fifty days; whenever about that period the plant is putting out a new root, and always early enough to allow it thirty day's dry growth at least before forming the second joint. Seven days after the water is drawn, the field is hoed very deep, and, if the land is stiff, the sods are turned over, or it is "backsodded;" in a fortnight after, it is hoed again, if practicable. As soon as the plant has formed a second joint, and the hollow is perceptible, the last or "joint water" is put on to the same depth as before, and never raised until the rice begins to shoot forth the ear.*

---

* The following note is found in 2d Vol. Ramsay's Hist. of S. Carolina, p. 206.

"South Carolina is indebted to Gideon Dupont, of St. James, Goose Creek, for the water culture of rice; he was an experienced planter, of discernment and sound judgment, who, after repeated trials, ascertained its practicability.

In the year 1783 he petitioned the Legislature of the State on the subject. A committee of five was appointed to confer with him. To them he freely communicated his method, relying on the generosity of the public. The treasury being then empty, the committee could only recommend granting him a patent. This he declined. His method is now in general use in river swamp lands, and has been the means of enriching thousands, though to this day his own family have reaped no benefit whatever from the communication of his discovery. Thomas Bee, now Federal Judge for the district of South Carolina, was one of the above committee; and on his authority these particulars are stated."

The last summer I instituted an inquiry to ascertain whether any of the family of Gideon Dupont were living, and could furnish me with an account of the water culture alluded to as the result of their ancestor's experience and observation. The inquiry was fruitless; none of the family of Gideon Dupont could be traced in this State.

I noticed the memorandum of the historian no further until coming to Columbia. Here, through the kind attention of the Clerk of the House, I have obtained from the journals of the house of 1784, not only a confirmation of the fact that a committee was appointed to consider the subject, but also the report of the committee enclosed, of which the following is a copy.

In the Senate, March 18th, 1784.

The Committee to whom Mr. Gideon Dupont's petition was referred,

REPORT:

That they have considered the same, and are of opinion that every encouragement ought to be held out for the improvement in agriculture, and the staple commodities of this State.

Mr. Dupont intends to make two experiments the ensuing crop to prove the practicability of his undertaking, viz. one in river swamp, at the plantation of Col. Morton Wilkinson, and the other in Black Swamp, at the plantation of Mr John Deas.

VALUE OF THE RICE CROP.

The value of the rice crop, as derived from examining the actual nett revenue of six different planters for ten years, from 1830 to 1840, has been equal to $140 per annum to the hand, that is, only taking into account the efficient force of the respective plantations.

The price of rice for the same time averaged as follows:—

In 1830,	$2 5-8	In 1835,	$3 1-4
In 1831,	2 3-8	In 1836,	3 7-16
In 1832,	2 13-16	In 1837,	3 11-16
In 1833,	2 5-8	In 1838,	4 1-17
In 1834,	3 3-16	In 1839,	2 1-2

being an average for that time of $3 1-8.

During the past season, 1842, the price was low, owing partly to the want of demand for rough rice, which caused an undue quantity of clean rice to be forced upon the market at the same time—partly to the increased production arising from a favorable harvest—but principally to the low price of breadstuffs generally, and the depressed state of trade all over the world, and the low standard value affixed to almost everything, by a return to a bank issue, based upon a specie currency—the only safe and permanent basis.

To those planters somewhat in debt, who have been met in the full career of habitual expenditure, by the late and present low prices of produce, they have proved seriously embarrassing.

Low prices, if they continue permanent, so as to effect a corresponding graduation in price of all the usual objects of expenditure, are doubtless favorable to the lasting prosperity of the country. If this be true, our planters will not complain. The sooner they and their society

---

Your Committee therefore recommend that Col. Morton Wilkinson, Roger P. Saunders, Esq., and Mr. John Deas, be appointed commissioners to attend the said experiments, and if they should be carried into effect, and will be of general utility, and shall certify the same under their hands and seals, to the General Assembly, that then the said Mr. Dupont be entitled to a liberal reward."

From the journals of the succeeding year, it does not appear that this commission ever reported on the subject. It may be presumed that Mr. Dupont's method of cultivating rice without the use of the hoe, and with water only, did not, upon further test, prove to be of as great general utility as he himself supposed. In new land, just cleared of wood and drained, a good crop of rice can be made *the first year* without the use of the hoe.* But under no other circumstances that I am aware of, except, perhaps, after a good fallow, which if properly treated, restores the soil almost to its primitve purity.

---

* The writer has made such crops repeatedly between the years 1828 and 1836, when clearing new land, with a comparatively small laboring force.

can accommodate themselves to the new condition of things, *i. e.* buy less, and endeavor to make more for sale, the sooner will those whose business it is to supply them, graduate their prices to the reduced standard—and their renewed prosperity, if it be less sudden and ostentatious, will not be the less sure and permanent for that; nor the less gratefully acknowledged.

Drill Plough.—Somewhere about the year 1812, the late Dr. Robert Nesbit, returning from a visit to his native country, Scotland, introduced an implement in the economy of rice-planting, which excited no little interest among the planters in his neighborhood. It was called the Drill Plough. Its office and uses were to open the trenches and deposit the seed, which it was found to do very well when managed with care, to the saving of so much labor.

The drill plough was borne by a carriage on two wheels, very much resembling in size and height an ordinary dray, and was drawn by one horse between shafts. It consisted, generally, of a long box parallel with the axle and above it, into which the given quantity of seed grain was placed and locked up. From this box the grain was distributed by means of regulators into and through tin tubes, descending nearly to the earth, at the required distance from each other for planting. These tubes or cylinders were guided in their descent, and sustained in their respective positions by rods of iron fixed firmly into the frame, but so as to yield to an obstacle when pressed hard against. The rods on their part were each furnished at bottom with a sort of shoe, protruding a little beyond the tube, for the purpose of marking and opening the trench into which the seed was to be conveyed by its corresponding tube. Although a little too complicated, it was, upon the whole, a complete and interesting labor-saving machine. Drawn by a good horse, over ground in high tilth, and managed by a skillful and judidicious hand, the drill plough would trench and seed from eight to twelve acres of ground in the day, in proportion nearly as it was furnished with a less or greater number of trenching shoes and tubes. It was used successfully by the importer, and, more or less, by several other planters on the Waccamaw and Pee Dee, up to the year of his death, (1821,) since which time it has been entirely abandoned.—This result is supposed to be owing not to the fact that the plough was not found to be highly useful, so much as to this, that to use it successfully, it required more minute attention and judgment than could be calculated on, among the field laborers of that day. The writer is inclined to the opinion, that the drill plough will again be introduced, and successfully used in rice-planting.* Indeed, he has himself ordered

* Since writing the above, it is ascertainad that Mr. Francis M. Weston, of Waccamaw, who has just returned from England, has ordered for importation an

the importation of an improved one from Scotland, to be accompanied by a laborer who is familiar with its use. One of these ploughs, used by the importer, having four tubes, would, on long beds, trench and sow ten acres in a day. Another furnished with six tubes, could accomplish fifteen acres under like circumstances, in the same time.

A simple trenching plough, furnished with coulters for opening two or three trenches at a time, has been used with advantage on light soils, but it has not been generally adopted.

Thrashing Mill.—The same gentleman, Dr. Nesbit, who was as much distinguished by his general intelligence and scientific ingenuity, as he was noted for skill and success in the practice of his profession, imported and used upon his plantation in the year 1811, the Scotch thrashing mill. His motive power was the wind. When the wind was fresh and the weather fair, this machine would thrash and winnow five hundred bushels in a day.

Among the various attempts of the several inventors in this country to improve upon the wheat thrasher so as to make it available for rice, none met with permanent success until the year 1830, when was produced a machine, the beaters of which were shod with sheet iron and serrated with iron wire.

The principle to which is owing the superiority of this invention, is, that whilst revolving with increased rapidity (600 to 800 to the minute) by means of the teeth with which the beaters are furnished, it combs off the grain from the numerous footstalks of which the ear of rice is composed. The invention, which is now in very general use, yielding, when worked by animal power, from two to three hundred bushels per day, and when propelled by steam 450 to 700 bushels each, is due to the ingenuity and mechanism of Calvin Emmons, of New York.* To

---

improved drill plough, which, on its arrival in this country, will be left some time at the Agricultural Repository of J. D. Legare, for the inspection of planters.

* The following is a list of patents obtained by citizens of South Carolina, together with the Emmons' of New York, for their respective inventions or improvements of a *Thrashing Machine*. There are no models for these to be found, and only three are illustrated by drawings. The originals were doubtless destroyed by the fire of the 15th Dec. 1836; and those marked thus † have not been restored.

† Benjamin S. Hort, Georgetown, S. C.	patent	21st Feb.	1812
† Elias B. Hort, Charleston, S. C.	"	18th "	1828
† Calvin Emmons, New York,	"	17th April	1828
† Jehiel Butts, Georgetown, S. C.	"	20th May	1830
Calvin Emmons,	"	27th July	1829
William Emmons,	"	7th Feb.	1831
William Mathews, Charleston, S. C.	"	27th Aug.	1835

the liberal enterprise and public spirit of Gen. James Hamilton are the planters of rice indebted for the first thorough test of the powers of

---

Here follows a description by Mr Emmons, of his machine of 1831, with his improvements thereon.

New York, 16th Sept. 1843.

To R. F. W. Allston, Esq.

Dear Sir:—Your letter of the 3d August is received—my rice-thrasher, when I first introduced it into your State in the winter of 1830-31, was constructed as follows, viz.: a rectangular frame, across and near the one end of which was placed, in suitable boxes, an iron shaft, on which shaft were hung circular heads, or wheels, to the periphery of which circular heads, and parallel with the said shaft, were attached, by joints or hinges, six toothed beaters, the length of which beaters being nearly equal to the width of the frame in the clear. The teeth of every second beater ranging alternately with the spaces between the teeth of the others; the teeth were made of 5-16ths iron rod, one-and-a-half inches long, and set in the beaters 5-8ths of an inch apart from centre to centre of each tooth. This centrifugal force causing the said toothed beaters, when revolving, to extend themselves as far from the axis as the joints by which they are secured will permit, and thus when in motion forming a cylinder.

Underneath the beaters was placed a circular frame or bed, formed of slats parallel with the axis of the cylinder, the front edge of which frame, where the grain is received, being raised nearly to the height of the axis of the cylinder; directly in front of which is placed a pair of feeding rollers, to which the sheaf-rice was conveyed by a revolving feeding-apron, the bands of the sheaves being previously cut.

The required speed of a cylinder of 18 inches diameter was found to be about 750 to 800 revolutions per minute—much over that speed would break the rice, or much under would not thrash so perfectly clean. The feed at about 60 feet per minute.

The principal improvements and alterations which I subsequently adopted, are the using of cast-steel teeth two inches long, of 3-8ths rod, flattened and hardened at the outer ends, (iron teeth having too rapidly worn away by the action of the rice upon them,) and steel plates in the concave bed, which plates project 3-4ths of an inch above the surface of the bed, and incline towards the feeding rollers, about 30 degrees from the radius; and which I found to protect the bed from too rapidly wearing as before, and to aid in separating the foot stalk.

Also as the feeding apron was found to wear out too rapidly by the roughness of the rice, an inclined feeding-board was substituted.

By steam power the machines have each thrashed 700 bushels per day, though ordinarily from 450 and 500 bushels per day each, and by horse power, as you well know, much less.

I was first induced to introduce the machine in the rice-planting districts, by the urgent solicitation of General James Hamilton, who had seen a model or hand machine an agent of mine had in Savannah, Georgia, and which General Hamilton had taken over to his plantation near that city, and with the operation of which he was so well pleased that he at once sent me a bale of rice in the sheaf, that I might further experiment with it here; and wrote me, offering every facility for trying the experiment by animal power on his plantation, if I would bring out a machine and

this machine, and for the subsequent early notoriety of its successful operation.†

Milling.—Although it is recorded that planters early in the 18th century cleaned their rice by mills worked by horses or oxen, yet this could not have been the case generally, till about the middle of that century. Even towards the period of the war, hand-mortars were still extensively used.

The method was, that each male laborer had three pecks of rough rice in a mortar, and each female two pecks, to pound before day or sun-rise; and the same at night, after finishing the ordinary task in the field. The pounding was done in wooden mortars, made of the common pitch pine, to contain a bushel or less; the pestle was made of light-wood or the heart of pine seasoned; the process was conducted on the floor of a large barn prepared for the purpose. The rough rice was sometimes ground by being passed between wooden blocks twenty inches in diameter by six inches thick, worked by hand. The mills early in use, and propelled by animal power, were the pecker-machine, so called from the striking resemblance of the pestle when in action, to the bill of the woodpecker, and the cog-mill, both of which have been entirely superseded by the improved pounding mill, propelled by water or steam.

Between the years 1780 and 1790, the first water-mill was erected by Mr. Lucas, the elder, to whom solely the credit of the invention is understood to be due.

It is to be regretted that the family of Mr. Lucas have not favored us with more full and accurate notes of their ancestor's early ingenuity and skill as a millwright. His son Jonathan, inheriting the father's mechanical turn and skill, constructed on Cooper river in 1801, the first toll mill for cleaning rice. He yielded at length to the invitations of the British government, and transported his improvements to England, where he himself passed the remainder of his days. His son Jonathan, now living, shipped in 1823 the first load of rough rice which was exported from this country.

---

driving geer the following fall or winter, to which I acceded; and after the erection of which machine, General Hamilton invited the neighboring planters to witness the experiment, the result of which proved satisfactory. My patent is dated 27th July, 1829. Very respectfully yours,

CALVIN EMMONS,
86 White street, New York.

† See in the Drawing Department of the United States Patent Office an Illustration of Mr. Emmon's patent, dated 27th of July, 1829.

The first water-mill built by Mr. Lucas, was in the year 1787, for Mr. Bowman, on a reserve at his Peach Island plantation, on the river Santee. The next, on the same river, was on the reserve at Washo plantation, for Mrs. Middleton, afterwards Mrs. Gen. T. Pinckney.

About the same time, or soon after, a water-mill was put up on a reserve on Winyaw bay, for Gen. Peter Horry. Also for Col. William Alston, on the reserve at his Fairfield plantation on the river Waccamaw.

In the year 1791-2, Mr. Lucas built on Santee the first tide-mill, for Mr. Andrew Johnston, on his plantation called Millbrook.

In a year or two after, the same indefatigable and ingenious mechanic erected on Cooper river an improved tide-mill, being furnished with rolling screen, elevators, packers, etc., at the plantation of Mr. Henry Laurens, called Mepkin.*

---

* The first Toll Mill built in this country was "Middleburg Mill," on Cooper River, which was finished in 1801, by J. Lucas, the son.

The first Brushing Screen used, was put into that mill in 1803.

The patent granted Mr. Jonathan Lucas by the British Government, expired three or four years ago. One of the most important advantages secured to Mr. Lucas, was getting the duty on Paddy reduced in England to 2s. 6d. per bushel.

Steam was first applied to Rice Mills in the year 1817, by Mr. Lucas and Mr. Norton.

The first cargo of Paddy was shipped to England 1823 by J. Lucas, jun. In that year the export of rice from this State was equal to 90,000 barrels, while in 1843 it has reached 130,000 barrels.

Among the numerous patents recorded at Washington for hulling grain, Wheat and Rice, the following are noted as being associated with the names of citizens of South Carolina, viz.:

Winnowing Screen Pendulum—Lewis Dupre, South Carolina, 1st April, 1807.

Hulling and cleaning Rice—Jonathan Lucas, jun. 12th July, 1808.

Hulling and pounding husks—Jacob Read, S. C., 9th June, 1809.

Hulling Rice and polishing—Jonathan Lucas, jun. 6th November, 1819.

Hulling Rice by steam—John L. Norton, 16th December, 1823.

Hulling Rice—John Ravenel, 17th May, 1828.

Hulling Rice—Asa Nourse, South Carolina, 19th July, 1828.

Hulling Rice—Asa Nourse, South Carolina, 3d April, 1829.

Hulling Rice and separating grain—Peter Broughton, South Carolina, 5th Aug., 1831.

The models and plans illustrating these inventions respectively, were doubtless destroyed by the fire of 1836, and have not been since restored.

There is a mill on Savannah River, (Mr. Gibbon's) carrying eleven pestles, which, as I learned from himself, can pound 14 barrels the tide. The pestles are shod with cast-iron about one foot in length, and secured to the wood by a long bolt driven from the bottom, and fastened by a screw and nut. The mortars are of cast-iron, weighing 600 lbs., cast by Allaire of New York, and cost $30. They are constructed to contain five bushels of rough.

Upon these, the mills erected at a later day have been improvements in construction chiefly. Some substantial improvements are said to have been introduced recently by David Kidd, a machinist from Scotland, of very high character for ingenuity and practical ability. He is himself one of the best millers, practically, in the state.

In the preparation of rice, much depends upon the grinding of the rough. In Northumberland, England, are the best quarries of stone for this purpose. In this process, as in that of brushing and polishing the grain after pounding, there has been latterly a decided improvement, owing mainly to the observation and genius of the millwright just named.

At present almost every planter of four hundred acres and upwards, is provided with a Tide-water or a Steam-pounding mill for preparing his own crops for market.

There are also a number of Toll-mills in the State, nearly sufficient for preparing all the rough rice which is not pounded at the plantations.

In Georgetown, besides various Tide-mills on the neighboring plantations, which pound on toll more or less, there is a very good Steam-mill owned by Mr. Benjamin King.

	Tierces 600	*lbs. nett.*
To 3000 bushels of fair rough-rice this mill will yield of prime Rice for market,	144	300 lbs.
Of Middling,	7	
Of Small Rice,	6	
Of Flour,	320 bushels.†	

† Georgetown, Nov. 16th, 1843.

To Col. R. F. W. Allston,

Sir:—I have received your communication, requesting information in relation to the preparation of Rough Rice for market, and have to say, that three thousand bushels fair quality, has turned out at the Steam Rice Mill here, one hundred and forty-four and a half barrels prime rice, and seven barrels middling, and six barrels small rice, and three hundred and twenty bushels flour. The time of pounding, with twenty pestles, sixty hours.

I would remark, that rice thrashed on floors with flails, turns out much better than mill thrashed.

Your obedient servant,
BENJAMIN KING.

Charleston, 21st Nov. 1843.

To Col. R. F. W. Allston,

Dear Sir:—In reply to your favor of 14th ult., I beg to say that the following is, to the best of my belief, an accurate statement of the turn-out from my mill of 2000 bushels of what I consider prime Rough Rice.

To your first inquiry—

1. In what time will this quantity be preparing? One day.
2. How many tierces weighing 600 lbs. nett? 105.
3. How many of second quality? None.

In Charleston and its vicinity there are numerous Tide-mills and several Steam-mills; the chief and most successful of the latter are those of Mr. Chisolm, Mr. Hume, and Mr Lucas.†

Mr. Lucas has not favored me with a reply to my queries in relation to the operations of his Mill. Nor has Mr. Hume.

---

4. How many of middling rice? Two barrels.
5. How many bushels of small rice? Twenty bushels.
6. How many bushels of rice flour? Two hundred and fifty.

With great respect, I remain your ob't servant,

A. W. CHISOLM.

P. S.—The above statement is made from rough rice thrashed with the flail. Rice done by a thrashing mill would take from one bushel to one and a half more—owing to the quantity of straw and foot stalk not being taken out properly before sent to the mill. A. W. C.

Results of three different parcels pounded at Chisolm's Mill, 1843.

1. 3000 bushels of Rough Rice from Waccamaw, thrashed *by mill*, made
   142 barrels whole Rice of 600 nett.
   3 barrels middling.
   3 barrels small.
   330 bushels flour.
2. 3000 bushels of Rough Rice from Sandy Island, thrashed *by flail*, made
   155 barrels whole Rice of 600 nett.
   3 barrels middling.
   3 barrels small.
   330 bushels flour.
3. 3512 bushels of Rough Rice from Pon Pon, thrashed *by machine*, turned out
   In whole Rice, 164 tierces 600 lbs. nett.
   In middling, 4 "
   In small, 3 "
   In flour, 375 bushels.

From THOMAS BILBY.

New York Rice Mill, Oct. 12th, 1843.

I have made sundry trials to ascertain the several products of rough rice or paddy, a few of which I give below. In 1835 I made three trials, as follows:

1000 bushels paddy, from Savannah, produced
- 19,995 lbs. of best quality,
- 10,145 " of second quality.
- 853 " of small rice, or chitts.
- 8,140 " of flour or douse.

1000 bushels paddy, from Charleston, produced
- 16,078 lbs. of best head rice,
- 596 " of best prime,
- 9,190 " of good to fair,
- 3,243 " of broken,
- 570 " of chitts, or small rice,
- 5,210 " of flour or douse.

---

† Since the above was published it is ascertained that Mr. Nowell has applied a steam engine to his mill.

From accounts of the operations of Mr. Chisolm's Mill, I infer that 3000 bushels of fair rough rice will yield of prime rice for market,	*Tierces*	600 *nett.*
	148	300 lbs.
Of Middling,	3	
Of Small,	3	
Of Flour,	330	bushels.

1000 bushels paddy, from Wilmington, produced
18,015 lbs. of best quality,
9,989 " of second quality,
1,307 " of small rice,
5,760 " of flour or douse.

The above were trials of different modes of screening, so as to ascertain which would produce the most money; all the trials that I have made since the above, I have not kept any of the small and douse, and I find that every year's rice differs in its proportions as to prime and broken, as also to the whole product. This year it has averaged thirty pounds to the bushel, and about one-tenth broken; last year the turn out was something less.

From J. P. DEVEAUX, Napier's Mill.

Charleston, 4th Nov. 1843.

Our mill differs from the pestle mill; we clean by wire cards; we have four of the rubbers in operation, which clean an average of 72 barrels in twenty-four hours. In answer to your interrogatories, I will give you an exact account of some rice bought, cleaned, and sold by us—that is through our factors. 1291 bushels rough rice, from the plantation of Mr. Thomas Lowndes, formerly Mr. Charles Rowand's, in St. Pauls parish, which yielded 41,075 lbs. merchantable rice, at 600 lbs. per barrel, is 68 1-2 barrels, or 19 bushels to the barrel, or 39,150 lbs. whole 1,925 lbs. middling, 990 lbs. small, 136 bushels flour. The above was cleaned in about twenty-three hours. The above parcel of rice was purchased 1st December, 1840, at 84 cents per bushel, and was sold at $3 1-8 on the 10th Dec. The next parcel that I am able to inform you accurately upon is 1,952 bushels rough rice, from the plantation of Mr. Henry Deas, which yielded 56,270 lbs. whole, 240 lbs. middling, 600 lbs. small, and 147 bushels flour. The above was purchased 2d November 1841, at 90 cents per bushel, and sold at $3 7-16ths, and took 20 3-4ths bushels to the barrel. I have given you above the result of two parcels, one from Santee, and one from St. Paul's parish. I should like to furnish you particulars of the results of rice further South; not being able to give you the number of pounds, I will give you the result in barrels of rice from Georgia; say 5,248 bushels rice, received 12th November, 1842, from the plantation of Dr. Daniel, near Savannah, which yielded 250 barrels whole, 12 middling, 11 small, and about 400 bushels of flour. This day we have just finished a parcel of 5,375 bushels from the same plantation, which resulted in 219 1-2 barrels whole, 38 middling, 10 1-2 small, and about 400 bushels flour; you will perceive that the above parcels took a little over 20 bushels to the barrel. The last parcel was very much broken in thrashing, which was done by machinery, which will account to you for the unusual quantity of middling rice; we did not come up to our average of 72 barrels per day on this last parcel, as the machines were new, and required some little time to work to advantage; but I think we may safely calculate upon cleaning three barrels per hour to the four machines.

In the City of New York, owing to the public spirit and enterprise of Col. Benjamin F. Hunt, there has been for some years in operation a very good Steam-mill, which receives rice on toll, and consumes, besides, some 50,000 bushels of Rough on its own account.

As the other Toll-mills from which I have heard have furnished results based upon the preparation of South Carolina Rice alone, I have thought proper to use only Mr. Bilby's experiment with the Charleston Rice.

	Tierces	600 *lbs.*	
To 3000 bushels of Rough Rice, the New York Mill yields of prime Rice,	82	422	
Of Good to Fair Rice,	45	570	*bbls. lbs.*
Of Broken Rice, (middling?)	16	129	144 521
Of Small Rice or Chitts, (26.31 bushels.)			2 510
Of Flour or Douse, (381.21 bushels.)			15,630 lbs.

In the mill erected by Mr. Napier, on Cooper River, "*Wire Cards*" are used instead of Pestles for cleaning the grain. This mode of preparing rice imparts a slightly blueish tinge to the grain, though it is supposed to keep longer than rice prepared in the ordinary way. Rice thus prepared will not command as high a price per cwt. as that from the pestle of similar quality, but it is said to be the interest of the planter to patronize the "Cards," inasmuch as the yield in whole rice from a given quantity of Rough is invariably greater, the offal being less. In the year 1842-3, this mill prepared about seven thousand barrels, and seems to have given satisfaction to patrons.

The trial of Mr. Deas' Rice, from Santee, is selected as the fair test of this mill, 1950 bushels. At the same rate 3000 bushels of prime rough rice will yield in—

	Tierces 600 *lbs.*
Prime Rice for market,	144
In Middling Rice,	368.85 lbs.
In Small Rice,	1,323.23 "
In Flour,	226 bushels.

Recently an ingenious method of lifting the pestles has been invented by Mr. S. K. Williams of the city of Charleston, to be used in substitution of the lever ("lifter") described in Mr. Lucas's Mill. One advantage of this invention is said to be the greater rapidity with which the pestles, themselves lighter, may be driven without interfering or "slamming." Another, that a system of pestles and mortars may be more compactly arranged in circular form, and may be moved by a less power.

The invention is called "The Spiral Shaft Rice Mill." As it has never yet been actually tested, nothing more can be said of it here.

PROCESS OF PREPARATION.—The stones which are used for grind-

ing rice should be 5 to 6 feet 2 inches diameter, and 18 inches thick at the centre. There is said to be a quarry in Northumberland affording stones of such excellent substance, that they will grind rough rice enough for packing 1000 barrels without being taken up.

The whole process of preparation may be described generally as follows. From a shed or convenient store-room attached to the mill-house, the rough rice is taken by means of elevators, (*i. e.* a system of small tin buckets attached to a long revolving band of leather) up to the highest apartment in the building, to be passed through a sand-screen revolving nearly horizontally, which, in sifting out the grit and small grain rice, separates also all foreign bodies, and such heads of rice as were not duly thrashed.

From the sand-screen the sifted rough of large size is conveyed directly to the stones on the same floor, where the husk is broken and ground off, thence to a wind-fan below, where the chaff is separated and blown off. The grain is now deposited in a long bin, placed over the pestle-shaft, and corresponding in length with it, whence the ground rice is delivered by wooden conductors into the mortars on the ground floor,—ten, twelve, fourteen, or twenty-four in number, as the power applied may justify.)* These mortars, improved by Mr. Kidd's design, are constructed beautifully of four pieces of the heart of pine, seasoned. They are in figure a little more than a semi-ellipsoid, and are made to contain four and a half bushels of ground rice each.

The pestles, also constructed of the heart of pine, and corresponding in number and position with the mortars, are sheathed at foot with sheet-iron, partially perforated in many places from within by some blunt instrument, so as to resemble, on a very coarse scale, the rough surface of a grater. They are intended to weigh each 240 to 280 lbs. or thereabout, are lifted by levers six feet long attached (2 feet out) to the large pestle-shaft, and make from forty-four to forty-eight strokes in a minute. A mortar of rice is disposed of, or sufficiently pounded in one hour and forty minutes to two hours. The grain thus pounded is again elevated to the upper floor, to be passed through a long horizontal rolling-screen, slightly depressed at one end, where by means of a system of wire-sieves grading coarser and coarser towards the lower end, are separated, first the flour, second the "small rice" (the eyes and smaller particles of the broken grains) third the "middling rice," or the smaller and the half broken grains, fourth and last, the "prime rice," the larger and chiefly unbroken grains, which fall through the largest wire, and forthwith descend to the "polishing" or "brushing screen" below, whence it descends through a fan into the barrel on the first floor, where

* It is understood that Mr. Lucas's mill drives 28 pestles, and Mr Chisolm's 30.

it is packed, and the preparation is completed.† The head rice, or largest grains of all, together with the rough, unbroken by the stones, passes off at the lower end of the screen, to be pounded over.

The "*brushing-screen*" consists of a vertical cylinder or drum two feet in diameter, by from four and a half to six feet in height, to the surface of which are attached, vertically, shreds of sheep-skin closely packed; this drum is made to revolve with great velocity within, and lightly brushing a cylindrical frame of iron wire made into a fine sieve. In passing down spirally between this clothed drum and the exterior cylindrical wire-sieve, the grains are relieved of the particles of flour which still adhere to them, and which are brushed off by the wool and forced out through the meshes of the wire. The rice thus brushed clean and polished against the wire, is packed in barrels constructed of pine staves to contain six cwt. nett. The middling and small rice are passed through a fan which blows off from them the flour into an apartment kept for that purpose. They are packed separately, and used as provisions for the laborers on the plantation during the warm months, chiefly at Christmas holidays and throughout harvest, and habitually by the families of both the proprietor and his overseer.

Rice being so completely protected by its silicious husk, and thus so much less liable to damage from transportation in the rough than when cleaned, owing too, to the superior manner in which clean rice can be presented in the European markets fresh from the screen, capitalists concerned in this trade have caused mills propelled by steam to be erected on Mr. Lucas's plan at various ports in England, and on the Continent, at which upwards of 400,000 bushels of rough rice from this State are annually prepared—besides a quantity of paddy from the East Indies, and from other quarters.

To encourage the construction of such machinery in Great Britain, and to protect the capital invested in the mills, the importation of rough rice, rather than clean, is encouraged in that kingdom by a discriminating duty in favor of the former, equal to four dollars per barrel of the latter.

In England there are in operation four mills—two in London and two in Liverpool, consuming each about 75,000 bushels of rough annually. When the price of Carolina rice ranges high, these mills are to a great extent, employed in manufacturing paddy from the East Indies.

The mill in Scotland has been converted to another purpose.

In Denmark, at Copenhagen, a mill has been in operation about six years—consumption about 90,000 bushels of rough.

---

† Mr. Chisolm has constructed in his mill a second screen for polishing, through which the rice from the brushing screen is passed on its way down to the barrel.

At Bremen there is a mill intended to prepare either wheat or rice, according to the state of the markets.

At Flensburgh, also, there is a mill constructed for both wheat and rice, capable of manufacturing 20,000 bushels of rouch rice.

In Holland, at Amsterdam, a mill has been some years in operation which requires from 60 to 80,000 bushels of rough rice annually.

In Portugal, at Lisbon, there is a small mill which prepares either wheat or rice, requiring about 10,000 bushels of Carolina annually.

In France, at Bordeaux, a mill has but recently been put in operation—for it, in the year 1842, were shipped about 60,000 bushels Carolina rough.

A mill, constructed after Mr. Napier's plan, has been erected by the "Northampton Rice Company" at Maranham, in South America, where it is in successful operation. It is supplied with paddy grown in the neighborhood.

The articles received from the several countries above named, as well as from Cuba, may here be mentioned.

From Denmark and Holland, as indeed from all the other countries, (England and France excepted,) little is received in the shape of return cargoes—the purchases of both rough and clean rice being for the most part paid for by Bills of Exchange on London.

From Bremen were once received glass-ware, bottles, bagging, hams, paving-stones, &c., but the United States Tariff of Duties has put a stop to these importations.

From Portugal the returns are fruit and wines principally.

From France the articles at present received are silks, wines, and brandy. This trade also has been affected by the tariff.

From England are imported in return, iron, hard-ware, manufactures of cotton, woollen and linen, salt, coal, &c.

From Cuba, the returns are sugar, molasses, coffee, and fruit.

The consumption of rice in Cuba is estimated at 15,000 barrels for the North-side, and 2,000 for the South-side of the Island.*

---

* The following, together with much other interesting and useful information for the foregoing memoir, has been furnished by the intelligent and obliging gentlemen constituting the firm of *Robertson & Blacklock*, of the city of Charleston, factors.

Rice is consumed in England and France as an article of luxury, except a small quantity annually made up into ornaments in both countries, consisting principally of rice paper, beads, clock cases, and chimney ornaments. In the North of Europe, it is used as an article of food, but cannot be afforded at a sufficiently low rate to be substituted for potatoes or grain grown upon the spot. In the time of war, its value is appreciated; it has been found to contain the greatest quantity of nutriment in the smallest compass, portable, and least liable to damage, and was consequently much used by the British troops in the lengthy Peninsular war.

In Cuba, it is used as a bread stuff in preference to any other kind of food. The

EXPORTS.—John Archdale, Governor of Carolina, in 1694-5, who gave more general satisfaction to all parties than any other under the proprietary rule, was a Quaker—a very pious, mild man. He succeeded in the government Landgrave Smith, and was in turn succeeded by Joseph Blake. He returned to England in the year 1696. In the year 1707, was printed for him in London a pamphlet, which from internal evidence, appears to have been written some two or three years anterior. In this pamphlet he says—"Notwithstanding all the discouragements it, the trade of the Colony hath met withal, which are many, yet *seventeen* ships this year came laden from Carolina with *rice*, skins, pitch, tar, &c. in the Virginia fleet, besides several straggling ones."* From this time to the year 1720, during the greater part of which time the coast was infested by fleets of piratical vessels under command of the notorious Steed Bonnett, and others, there is extant no records of the exports of the Province.

In a statement intended for the House of Commons, drawn up about the commencement of the war with France, by the merchants of London concerned in the rice trade, and published by Governor Glen in his "Description of South Carolina," 1761, the exports of Rice from Carolina are thus given:—

From 1720 to 1729, inclusive, 264,788 barrels = 44,081 tons.†
" 1730 to 1739, " 419,525 " = 99,905 tons.‡

From another source is obtained the following statement:—

Exports of Rice from the Port of Charleston, S. Carolina,

From 1724 to 1725,—Nov. to Nov.				*Casks*	17,734
" 1725 to 1726,	"	"			23,031
" 1726 to 1727,	"	"			26,884
" 1727 to 1728,	"	"			29,905
" 1728 to 1729,	"	"		*Barrels*	32,384
" 1729 to 1730,	"	"			41,722
" 1730 to 1731,	"	"			39,487
" 1731 to 1732,	"	"			37,068
" 1732 to 1733,	"	"			50,726
" 1733 to 1734,	"	"			30,323
" 1734 to 1735,	"	"			45,317
" "	"	"	"	*Bags*	1,038

consumption of Carolina Rice begins however to be much interfered with by the rice grown in and exported from Spain, as well as the rice now grown in the Island of Cuba itself; also a very good quality of rice is now imported from Campeachy. The present duty on Carolina rice in Cuba, is $2 1-4 per 100 lbs. while the duty on that from Spain is almost nominal. From Campeachy the duty may be considered one-third less, as it is brought in Spanish vessels, which enjoy that discriminating advantage in favor of their flag. The high duty on rice from this country also operates very much against its consumption.

* 2 Car. Col. p. 97.

† The weight of the barrel would seem to have been about 325 lbs.

‡ The weight of the barrel now 400 lbs.

Exports from Charleston, S. C. *		Bbls.	Bags.	Price at last mentioned period.
From 1735 to 1736	—Nov. to Nov.	52,349	1554	
" 1736 to 1737	" "	42,619	519	£3 0s. 0d.
" 1737 to 1738	" "	34,324		
" 1738 to 1739	" "	67,117		£2 0s. 0d.
" 1739 to 1740	" "	91,110		2 5s. 0d.
" 1740 to 1741	" "	80,040	2137	2 15s. 0d.
" 1741 to 1742	" "	46,196		
" 1742 to 1743	" "	73,416		2 0s. 0d.
" 1743 to 1744	" "	80,778		1 5s. 0d.
" 1744 to 1745	" "	59,627		0 17s. 6d.
" 1745 to 1746	" "	54,101		1 0s. 0d.
" 1746 to 1747	" "	54,146		2 6s. 0d.
" 1747 to 1748	" "	55,133		2 15s. 0d.
" 1748 to 1749	" "	41,034		
" 1749 to 1750	" "	48,011	525	
" 1750 to 1751	" "	61,522	223	1 17s. 0d.
" 1751 to 1752	" "	78,360	186	3 10s. 0d.
" 1752 to 1753	" "	35,522		2 5s. 0d.
" 1753 to 1754	" "	88,659		2 10s. 0d.
" 1754 to 1755	" "	96,778		2 0s. 0d.
" 1758 to 1759	" "	51,718		
" 1759 to 1760	" "	60,789	44	2 5s. 0d.
" 1760 to 1761	" Oct. 10,	101,359	74	1 17s. 6d.
" 1761 to 1762	" Nov.	79,642		1 10s. 0d.
" 1762 to 1763	" "	101,059	44	2 10s. 0d.
" 1763 to 1764	" "	101,842		
" 1764 to 1765	" Sept. 14,	107,292		2 10s. 0d.
" 1768 to 1769	{From 10th October to 24th August.}	116,715		3 5s. 0d.
" 1770 to 1771	{From 1st Nov. to 10th Oct.}	130,500		

As follows:—

To Great Britain,	73,325
To Portugal,	14,439
To Spain,	1,760
To Italy,	222
To Foreign West India Islands	975
To British " "	30,305
To Ports on this Continent,	9,665

In the year 1770, from the Colonies, 150,529—$1,530,000.†

---

* South Carolina Gazette.

† Pitkins' Statistics.

	Bbls.	Price at last mentioned period.
From the port of Charleston, South Carolina, from 1772 to 1773, from 1st Nov. to 2d Aug.	112,469	£3 10s. 0d.
From 1773 to 1774, from 12th Nov. to 7th Nov.	118,482	
From Beaufort same time,	3,630	
From Georgetown,	2,964	
Crop of 1773 exported—Total,	125,076	

	Tierces.	Value on Ship-board
In the year 1791, from the United States,*	96,980	-------
" 1792, " "	141,762	-------
" 1793, " "	134,611	-------
" 1794, " "	116,486	-------
" 1795, " "	138,526	-------
" 1796, " "	131,039	-------
" 1797, " "	60,111	-------
" 1798, " "	125,243	-------
" 1799, " "	110,599	-------
" 1800, " "	112,056	-------
" 1801, " "	94,866	-------
" 1802, " "	79,822	-------
" 1803, " "	81,838	$2,455,000
" 1804, " "	78,385	2,350,000
" 1805, " "	56,830	1,705,000
" 1806, " "	102,627	2,617,000
" 1807, " "	94,692	2,367,000
" 1808,† " "	9,228	221,000
" 1809, " "	116,901	2,104,000
" 1810, " "	131,341	2,626,000
" 1811, " "	119,356	2,387,000
" 1812,‡ " "	77,190	1,544,000
" 1813, " "	120,843	3,021,000
" 1814, " "	11,476	230,000
" 1815, " "	129,248	2,785,000
" 1816, " "	137,843	3,555,000
" 1817, " "	79,296	2,378,001
" 1818, " "	88,181	3,262,697
" 1819, " "	76,523	2,142,644

* Hunt's Merchants' Magazine.

† The year of the embargo.

‡ War with Great Britain during the years 1812, 1813, and 1814.

				Tierces.	Value on Shipboard
In the year	1820,	from the	United States,	71,663	1,714,923
"	1821,	"	"	88,221	1,494,923
"	1822,	"	"	87,089	1,553,482
"	1823,	"	"	101,365	1,820,985
"	1824,	"	"	113,229	1,882,982
"	1825,	"	"	97,015	1,925,245
"	1826,	"	"	111,063	1,917,445
"	1827,	"	"	133,518	2,343,908
"	1828,	"	"	175,019	2,620,696
"	1829,	"	"	171,636	2,514,370
"	1830,	"	"	130,697	1,986,824
"	1831,	"	"	116,517	2,016,267
"	1832,	"	"	120,327	2,152,631
"	1833,	"	"	144,166	2,774,418
"	1834,	"	"	121,886	2,122,272
"	1835,	"	"	110,851	2,210,331
"	1836,	"	"	112,983	2,548,750
"	1837,	"	"	106,084	2,309,279
"	1838,	"	"	71,048	1,721,819
"	1839,	"	"	93,320	2,460,198
"	1840,	"	"	101,660	1,942,076
"	1841,	"	"	101,617	2,010,107

The following statement of exports from South Carolina, derived from the journals of the day, is given from the year 1832, the period from which has been kept an account of the receipts of rice at the port of Charleston. The exports coastwise being rarely cleared, cannot with accuracy be given. The foreign exports of rough rice are included in the foreign exports of tierces, at the rate of twenty-one bushels to the tierce—and so with the exports coastwise.†

	CLEAN RICE.				ROUGH RICE.	
October to October.	Receipts. Tierces.	Exports Foreign. Tierces.	Exports Coastwise. Tierces.	City consumption. Tierces.	Exports Foreign. Bushels.	Exports Coastwise. Bushels.
1832–33----	143,473	90,246	47,003	7,776	----	----
1833–34----	117,403	80,089	30,918	6,330	----	----
1834–35----	121,898	74,868	42,501	5,600	317,594	41,288
1835–36----	133,633	79,007	47,226	6,200	356,752	63,235
1836–37----	119,961	63,396	40,614	5,500	512,808	39,609
1837–38----	90,384	51,514	30,837	6,600	336,442	44,733
1838–39----	106,001	63,617	36,295	6,850	470,412	43,950
1839–40----	107,108	68,795	31,591	6,800	431,306	10,342
1840–41----	107,052	75,265	25,970	6,200	455,592	37,166
1841–42----	118,004	75,739	34,174	7,200	445,685	15,770
1842–43----	136,732	71,575	58,011	7,300	294,018	33,493

† This statement is furnished by Mr. J. W. Cheeseborough.

The exportation of Rough Rice to foreign countries commenced about the year 1823,* as appears from the following (amongst other testimony,) "account of the quantity of Rice imported into, and re-exported from the United Kingdom of Great Britain and Ireland, for ten years, ending 5th January, 1828. Ordered by the House of Commons." Extracted from the *Southern Agriculturist*, volume 1, p. 461.

CLEAN RICE.

	Imports.			Exports.	Rice cleaned from Paddy.
	British Possessions.	Foreign.	Total.		
1819...cwts.	322,986	102,532	425,518	142,880	----
1820.....	375,461	95,763	471,224	150,552	----
1821.....	192,982	89,085	282,067	100,403	----
1822.....	73,831	56,720	130,551	105,249	----
1823.....	12,871	107,388	120,259	139,600	----
1824.....	30,648	94,056	124,704	79,370	----
1825.....	24,772	123,194	147,966	92,897	----
1826.....	18,918	35,779	54,697	50,463	----
1827.....	50,380	40,774	91,154	35,445	----
1828.....	107,325	43,897	151,222	51,620	----

ROUGH RICE.

1820.....	758	----	758	----	----
1821.....	2,093	----	2,093	----	----
1822.....	781	----	781	----	----
1823.....	259	----	259	----	----
1824.....	298	----	298	----	----
" bushels	193	13,053	13,246	----	----
1825...cwts.	----	----	----	----	676
" bushels	3,272	92,480	95,752	----	----
1826...cwts.	----	----	----	----	2,717
" bushels	4,839	111,646	116,485	----	----
1827...cwts.	----	----	----	----	5,435
" bushels	2,855	113,526	116,381	----	----
1828...cwts.	----	----	----	----	1,070
" bushels	10,322	171,893	182,215	----	----

DUTY.

On British clean, 7s. 6d.; in 1820, reduced to 5s.; in 1828, to 4s.; subsequently to 6d. per cwt.

* The first cargo of Rough Rice was shipped to England from Charleston by J. Lucas, junr., in the year 1823.

DUTY.

On foreign clean, 20s.; in 1820, reduced to 15s.; in 1842, to 6s. per cwt.

On British rough, 2s. 6d. per cwt.; in 1823, to 7½d. per bushel; in 1827, to 3d.; in 1842, to 1d. per quarter.

On foreign rough, 10s. per cwt.; in 1823, to 2s. 6d. per bushel; in 1842, to 10½d. per bushel.

RICE IN LOUISIANA.

We had thought of preparing an article on the subject which Col. ALSTON has treated so ably above; but having fortunately received his memoir, which appears in the Agricultural Survey of South Carolina, we conceived that he had exhausted the subject, and that no better service could be done the whole public than an immediate publication of his paper. So interesting and valuable is the document, that it would have been impossible to have left out a single line. Such essays do more for the advancement of agricultural science than can well be conceived. Louisiana is deeply interested in the prospects of rice. She has an immense country adapted in every respect to its culture, and she is at the present moment, as a producer, exceeded only by two states in the Union, South Carolina and Georgia. The quality produced by her is superior, and were it not for the deficiencies of the machinery used in preparing it for market, the "creole rice" would occupy equal rank with the Carolina. Should the sugar interest be affected injuriously by the tariff, Louisiana may consider herself fortunate in having a reserve in rice, which will augment the agricultural wealth of the state to an extent difficult to be appreciated. The planters would do well to consider the question, and we invite from them an expression of their views. The remarks we have made apply with equal force to Mississippi. Dr. Cartwright, of Natchez, has informed us that the new grounds of the lower Mississippi produce about seventy-five dollars worth of rice per acre, and that the profits of a crop should not be so much estimated by the yield per acre, as the number of acres a laborer can till, and that after the land is properly prepared for inundation by leveling, ditching and embankments, a single hand can grow almost an indefinite quantity of rice. Dr. Cartwright also states that within forty miles of Natchez there are 100,000 acres of land valued now at from ten to fifty dollars an acre, which, at a small expense, could be converted into productive rice lands. The earliest settlers of Louisiana were aware of the importance of the crop. It had become in 1723, an article of exchange, like tobacco in Virginia, and its rela-

tive value was fixed by law in the purchase of slaves. After the disastrous hurricane of that year, we are informed by Martin, 1 Hist. Louisiana, p. 254, that the colonists were in some degree surprised by the appearance of an unexpected crop of rice; the grain scattered by the hurricane had taken root, and promised a comparative abundance. Ten years afterwards, creole rice was valued in the province at three livres, or sixty-six cents the hundred weight.—Ed. Com. Review.

Art. III.—ANALYTICAL INDEX OF THE WHOLE OF THE PUBLIC DOCUMENTS RELATIVE TO LOUISIANA, DEPOSITED IN THE ARCHIVES OF THE DEPARTMENT—"DE LA MARINE ET DES COLONIES ET PARIS."—Continued.*

Paris, 29th January, 1841.

To his Excellency A. B. Roman,
Governor of the State of Louisiana.

Sir:—You will receive under cover of this La Salles' Act of Possession, in behalf of France, of the mouths of the Mississippi in 1682; and I now beg to continue the memoranda advised in my letter of the 27th.

Dec. 19th, 1768.—Letter from Gov. Ulloa to the Marquis de Grimaldi, announcing the revolution in Louisiana—his expulsion and his arrival at Havana.

20th.—Statement by Gov. Ulloa of the events in Louisiana—a document containing about 300 pages, very full and very well drawn up; whereby it is clearly demonstrated that Aubry, in the whole matter, was the principal informer: that the plan was not for the purpose of remaining under a kingly dominion, but that the end was *freedom*. That for that purpose Messrs. Noyan and Masan were deputed to the English Governor of Florida, then residing at Pensacola, for the purpose of securing the protection of the British Government in behalf of the intended Republic. That the Governor of Florida having refused all aid, the address to France was resorted to by the rebels as a means of concealing their plan. That the leaders were Mr. de Lafrenière, a creole, Mr. Foucault, Mr. Villieré, brother-in-law of Lafrenière; Mr. Heri, Messrs. Noyan, Verret, Marquis; four brothers, Le Roy, who have since as-

* Note.—To falicitate researches in the French Archives, the Index gives each Document in the order placed in each Portfolio or paper case, and each Portfolio is numbered. These papers not having been classed, the confusion of dates could not have been avoided without subjecting such researches to much trouble, from the great multiplicity of manuscripts.

sumed the name of Lafrenière; Lere, Banlieu, and Chauvain, Judice, de Lery, Darimsbourg, Hardi de Boisblanc, Thomasson, Fleurian, Cabaré, Ducros, and Millet. That their place of meeting was at the residence of a Mad. Pradel, near the city of New Orleans, where they collected to the number of 500. The plan embraced the whole of Louisiana. This document is full of interest and shows the cause of the lukewarmness of the French Government in the whole matter. The whole statement of Gov. Ulloa is corroborated by the French Governor, Aubry, who, it appears, with the French troops under his command, was treated as an enemy as well as Ulloa. Thus Lafrenière, his brother-in-law Villieré, Marquis, and their associates, died victims of their love for liberty, and not of their love for France as generally believed.

21st.—Memorial of the inhabitants and merchants of Louisiana, to the King of France, explaining the causes which led to the expulsion of Ulloa. This document penned by Lafrenière, was drawn up, it appears, after the failure of the application to the British Government for protection, on the standard of liberty being raised. It is couched in fine language, contains valuable statistical information, and shows that Louisiana in its infancy contained talented men and noble souls.

22d.—Letter from the Marquis de Grimaldi to the Count of Fuentes, then Ambassador to the Court of France, giving an account of a council of state, wherein the whole matter of the Louisiana Rebellion is taken up—the council having, with only one dissenting voice, decided to consider Louisiana as a Spanish possession. The Marquis announces the appointment of Gen. O'Reilly, with extraordinary powers, modified, however, by the King of Spain, so as to confine to expulsion all cases deserving greater punishment. The Ambassador, in the same letter, is desired to demand of the King of France to disapprove the conduct of his subjects in Louisiana.

23d.—Letter from Aubry to the Duke of Choiseul, wherein he tries to show that to France Louisiana can be of no advantage—and that to Spain it can be of no other advantage than to protect its Mexican possessions against smuggling. This letter bears date 1768.

24.—Letter from the same to the same, bearing date 24th August, 1769—referring to his former accounts of the doings of the rebels from 29th Oct., 1768, to 20th May, 1769—confirming all the statements of Ulloa—he announces the arrival, at a moment when he considered all lost, of a liberator, Gen. O'Reilly, with 3000 troops—he gives an account of the transfer of the government to that general—he appears then to have considered the whole matter as ended, and that the past would have been forgotton, the leaders having by his advice quietly submitted.

Paris, 6th February, 1841.

SIR:—I had the honor of addressing you on the 29th ult. The following are the memoranda since taken by me from the French archives. The ministers who met to decide upon the fate of Louisiana, after the expulsion of Ulloa, were the Duke d'Alba, Munian, the Count d'Aranda, Musquir, Arriega, and the Marquis de Grimaldi. The latter gives a full account of the whole matter. All the documents relative to the conspiracy of 1768, are translations from the originals at Madrid.

25th—1765, 16th Nov.—Decree prohibiting the introduction of slaves from Martinique, on account of their propensity to poisoning.

26th—1766, 29th Sept.—letter from Aubry and Foucault notifying the refusal of the French troops to enter into the service of Spain.

27th—1716—letter from Mr. Duclos to the French minister relative to Natchez.

28th—No date—finances of Louisiana—first account of the introduction of government paper money in Louisiana by ordinance of the king of France, bearing date 14th Sept. 1735—amount issued 200,000 livres. The reason alleged for this issue are the same which were given by some of our modern financiers, to justify their application to the Bank of the United States for their depreciated paper, to enable the New Orleans banks to resume specie payment. At that epoch the king of France was a merchant, had public stores, and the circulation of his paper money was to have been obtained by its being made a legal tender for all goods purchased from the public stores. This document is not dated, and appears to have been written in 1744-5.

29th—No date—opinion of Messrs. Bienville and Salmon, regarding the emission of paper money, which they recommend.

30th—Statistics of the Indian nations from Mobile to Carolina—plan presented to secure the trade then carrying on between the Indians and Carolina. This document is without date, and appears to have been drawn up under the administration of Gov. de Kerlerec.

31st—1740—Muster roll of all the officers and cadets in Louisiana.

32d—1710, 13th May—instruction of the king of France to M. De la Mothe Cadillac, as Governor of Louisiana. This document shows the great difficulties the first inhabitants had to labor under.

23d—1743, 21st July—letter from Vaudreuil Salmon touching the wax-tree.

34th—Memorial of Dr. Brat on the same subject.

35th—Memorial on Natchitoches. This document is interesting; that country is there represented as favorable to all the agricultural products of Europe, and to cotton, tobacco, &c. It bears no date and appears to have been drawn up by M. St. Denis.

36th—1765—report of the arrival of 193 Acadians sent to Opelousas.

37th—1764, 7th June—memorial of the merchants of New Orleans to M. d'Abbadie, depicting the wretched condition of the colony produced by depreciated paper money. This document contains a practical refutation of the credit system as eulogised by so many of our countrymen. It shows the demoralizing effects produced by the shadow being mistaken for the substance.

38th—1764, 10th April—letter to M. d'Abbadie, respecting 3000 Indians collected in Mobile—the advantages of the colony, and the progress in the manufacture of sugar.

39th—1764—letter from M. d'Abbadie to the Duke of Choiseul announcing the establishment at Lafourche Chetimaches, of about 200 Indians from Mobile—the Teansas.

40th—1704—statistics of the colony—population including the garrison, 180 men. Twenty-seven families—three girls and seven boys from one to ten years. Eighty houses covered with lataniers, laid out in straight streets. One hundred and ninety acres land cleared for the building of the city. Nine oxen, of which five belonged to the king. Fourteen cows. Four bulls belonging to the king. This document is signed "La Salle."

41st.—1702—letter from de La Salle, announcing his arrival at Pensacola and Mobile. This document is interesting.

42d—1702, 11th Dec.—letter from de La Salle to the minister, stating that he has been compelled to dispatch a vessel to Vera Cruz to inform the vice-roy of Mexico of the siege of St. Augustine by the English and Indians, with 16 ships.

Pensacola appears to have been founded four years after the discovery of Louisiana.

43d.—1729-36—history of the wars in Louisiana. Dartaguette was killed in battle with the Indians.

All the above documents are deposited in Portfolio No. 1, in the "Department de la Marine et des Colonies."

Paris, 14th February, 1841.

Sir:—I send you herewith copy of a document written sometime about the year 1744, showing the introduction of paper money in Louisiana, and its disastrous effects upon Louisiana.

The following is a continuation of the memoranda from the archives of the navy department.

Portfolio No. 2.

44th—1769—remarks of Mr. Aubry on the rebellion in Louisiana.

45th—Memorial on the finances of Louisiana posterior to 1731.

46th—1697, 14th Oct.—Quebec, letter touching information required

about the Spanish possessions in Mexico bordering the tributaries of the Mississippi. This document is interesting; it speaks of Lasalle and presents some remarks on the mines.

47th.—26th July—Dartaguette in Louisiana, speaks of the inundation by the Mississippi; its waters having risen to the garret of houses in New Orleans.

48th—22d February, 1759—survey of the domains of the king adjoining Mrs. Pradel's plantation.

49th—1748, 21st May—memorial of Mr. Grades fils in Louisiana, showing the great advantages of that colony.

50th—Project of colonization for Louisiana; demand of a large tract of land on condition of its being cultivated in tobacco, cotton, sugar cane and indigo. This project, drawn up in Versailles, bears no date.

51st—1717—memorial of Mr. Hubert on Louisiana, attempting to show that the colonization of that country if energetically pursued, would gradually lead to the conquest of the whole of North America.

52d.—Memorial to show that Louisiana might become as important as Mexico.

53d—1719—memorial of Mr. Bienville, announcing the fall of Pensacola into his hands, and the events ensuing the same.

54th—1738—insignificant letter respecting the Jesuits.

55th—1754, 20th Sept.—letter from de Kerlerec to Dauberville, on the necessity of a military station at the Balize. This letter contains an interesting account of the mouth of the river, and a proposal to establish there a floating battery with heavy guns.

56th—Statement of occurrences in Biloxi.

57th—Project to restore confidence in Louisiana, destroyed by irredeemable paper money; proposal to make the king's paper legal tender; form of an edict. This document must have been written sometime about 1754.

58th—Memorial on Louisiana, representing the necessity of retaining that colony in order to prevent the English becoming masters of not only the whole of North America, but also of Mexico. By this document it appears that M. St. Denis headed the twenty Canadians on the exploring expedition from the Red River to the province of Leon in Mexico; it appears to have been written about the year 1715.

59th and 60th—Memorial on the same subject at the same epoch.

61st—1692, 14th Sept.—account of the attack by five 60 gun vessels of the Fort Louis in Louisiana, under the command of M. de Bouillon, Governor of Newfoundland.

62d—1700—memorial for the colonization of the Mississippi.

63d—List of officers under the command of Dartaguette, and in Louisiana.

64th.—1749, 17th Dec.—memorial of M. le Bailly Messager, on Louisiana. This document is interesting; a central power is proposed to be established on the Wabash; fertility of the soil, &c.

65th—1750—memorial of the same, on the same subject.

66th—1754, 6th March—memorial on Louisiana, by Mr. Colon, to increase the commerce of Louisiana with the Islands and the metropolis; the plan embraces the whole of the basin of the Mississippi, and is interesting.

67th—No date—report of three commissioners touching an interview with the Governor of Pensacola, de Galve, for the purpose of devising the means to prevent the English taking possession of that post. Determination on the part of the Governor of Pensacola to rely upon the *Bull* of Pope Alexander VI, conceding the line 180 to the Catholic Kings. The power of the Pope to grant crowns repudiated by the commissioners. This document is curious and appears to have been written in 1709.

68th—1709—observations on the *Bull* of Pope Alexander; development of the immense advantages to be derived by France from the possession of Louisiana.

69th—1701, 17th July—memorial on Louisiana; advice to the king as to the measures to be adopted for its welfare.

70th—1709, 27th April—memorial on Louisiana; situation of the colony.

71st—1712, June—memorial of Mr. Tions de Gouville, on the advantages of Louisiana, and the causes which have checked all progress in that country.

72d—No date—memorial on fortifications required.

73d—1738, 10th May—Hubert's memorial on Louisiana. This document is very interesting for its statistical information.

74th—1714—memorial to show the necessity of inviting immigration to Louisiana. This document is interesting and contains extracts of letters from Crozat.

75th—1716—great and masterly development of the destinies of Louisiana.

76th—1714, 17th April—memorial on the wretched condition of the colony.

77th—1716—a memorial is to be found on Louisiana after La Salle's discovery, in the registers of the navy department 8*f*., 123 *vo.* (This is a memorandum in this portfolio.)

78th—1720—memorial on the fortifications of Pensacola, and of the impossibility, on account of the nature of the soil, to establish good foundations.

79th—1723—letter and memorial of Mr Hubert on the advantages of Louisiana.

80th—1753—prohibition by the Marquis Duquesne against the exportation of grain from Canada; he styles himself Governor of "la Nouvelle France, and of all the lands and countries of Louisiana."

81st—1755—Quebec, Canada, process verbal of a voyage to the river Senaramixi.

82d—1751, Tombeckbé 18th June—letter announcing the capture of five deserters; speeches of the Indians who brought them back to obtain their pardon.

83d—1787—extract of a letter from M. de Villiers on the subject of a tobacco contract with the king of Spain.

84th—Canada, 1753—ordinance of the Marquis Duquesne fixing the maximum of wheat to 3 livres per minot on plantations, and 3 livres 10 sols in town.

85th—1716—memorial of Mr. Crozat on Louisiana; important developments.

86th—1751, 15th July—accusation of Mr. Michel against Mr. Fleurian procureur general, and Capt. Derneville.

87th—No date—memorial explanatory of patent letters proposed to the king.

88th—1769—grievances against Governor Ulloa and Aubry. The document is not signed.

89th—1745—interesting memorial on the administration of Louisiana. By this document it appears that the Ursulines are bound to attend to the hospital, and to educate 30 orphan girls.

90th—1716—letters patent projected for Louisiana.

91st—1662—memorials respecting the doings of the West India Company; forms of concessions.

92d—1723—memorial on the rivers, lands and Indians of Missouri. This document is interesting and shows that there was a traffic then carrying on between Missouri and Mexico.

93d—No date—memorial for a concession of lands from Manchac to New Orleans.

94th—No date—memorial on the subject of Father Beaubois, superior of the "Missionaires Jesuites" in Louisiana. This document appears to have been addressed to Governor Bienville.

95th—1738—memorial of Governor Bienville touching his intended operations against the Chicachas.

96th—1735—opinion of M. Bienville in case of war.

97th—1735, 25th August—M. Bienville on Georgia; of their system of colonization, &c. This document is interesting.

98th—1735, 20th Sept.—M. de Bienville on the Chicachas.

99th—1735, 14th April—M. de Bienville on the Indians.

100th—1739, 25th March—M. de Bienville on the Indians.

101st—No date—report on the necessity of separating the government of Louisiana from that of Canada, to which, under the West India Company, it was attached. This document was evidently written in 1731; recommends a new organization.

102d—1731, 25th March—M. Paria advises the minister of the defeat of the Renards by the Illinois and other Indians living on the borders of Canada; he enters into some details respecting Indian warfare. Speaks of one of the passes at the Balize having 17 feet water which shortly before had only 12; is of opinion that two vessels employed three months each year, say April, May, and June, would give 22 feet on the bar. Speaks of a report by him on the Balize which I have not yet found. This document is very interesting.

103d—20th August—account of the Natchez war, by M. d'Iron, 1731.

104th—1735—Bienville on Louisiana, in case of war; its relation with the Indians.

105th—1737, 20th Dec.—Bienville's report of two expeditions of the Chactaws against the Chicachas.

106th—1738, 13th August—Bienville's report of deserters brought back by the Alibamons.

107th—1738, 26th April—Bienville's report on the interior of Illinois and Ohio, and of the Indians there.

108th—1738, 22d March—Bienville's report of an exploring voyage to the river Jachoux, (Yazoo,) details on those countries; discovery of the Chicachas road, which led to the voyage.

109th—1738, 29th May—Bienville's report of the voyage of exploration on the Wabash; interesting account of the adjoining country.

110th—1702, 20th June—memorial of M. d'Iberville on the Mississippi, the Mobile and surrounding countries; their inhabitants; latitudes of many places taken by him; statistics of all the Indian nations, including the Illinois and Ohio. He states the number of families at 21,860; plan of action proposed. This document is ably drawn up and full of interest; it bears the signature of M. d'Iberville.

111th—1708, 25th Feb.—memorial of M. Dartaguette, giving an account of the information received by him from M. Demny of the fort of Louisiana; statistical report on Mobile.

112th—Letter from Bienville, with a full account of the doings in Mobile and Louisiana; represents the country in a state of great poverty; contains interesting information on the Indians and the English.

113th—1731—letter from M. de St. Denis to M. Salmon, giving an account of a battle with the Indians.

114th—1763—evacuation of Louisiana. It is proposed to send to St. Domingo the troops in Louisiana; this plan is approved.

115th—13th Fructidor An 10, General Milford Tastanagy proposes to answer the application made by the American minister for the purchase of Louisiana; General Milford promises to prove to the first Consul that a cession would be fatal to France.

116th—1747, Feb.—Governor Vaudreuil states his preparations in case of attack by the English; sends a plan of the mouth of the Mississippi, (not yet found;) says that the bar at the Balize contains 11 or 12 feet, mud and sandy bottom, and 15, 16 and 17 feet on the eastern pass, and a shorter bar.

117th—1712, 8th Sept.—memorial to prevent debauchery, (libertinage,) in Louisiana.

118th—1762, 13th Nov.—cession of Louisiana to Spain; ratification by the King of Spain.

119th—Questions by General Victor to the First Consul, regarding Louisiana, and his answers.

120th—1753—M. de Kerlerec, suit of André Barri.

121st—1701—memorial of M. d'Iberville on Pensacola.

122d—1703—project to take Charleston and to burn it.

123d—1750, 1st Feb.—letter of Pierre Rigaut, Marquis de Vaudreuil, informing the King of the necessity he had been under of issuing paper money.

124th—memorandum to show in what light the West India Company ought to have been considered by the French government.

125th—No date—memorial of the West India Company.

126th—1685—memorial of the West India Company.

127th—1753, 8th March—M. Kerlerec announcing his arrival in Louisiana, he gives an account of his reception, and some statistical details.

128th—1770, 16th June—memorial of M. Robé; *Ordonnateur* of Louisiana.

129th—1715—instructions of the King to Messrs. Lamothe Cadillac and Duclos, Governor and *Ordonnateur* of Louisiana.

130th—1752—three tables to carry on the official correspondence between the colony and its metropolis by the means of cyphers, and the key for the same.

No. 520, St. Yago; No. 530, lui; No. 540, ab; No. 550, Croix; No. 460, beau; 400 Canada, etc.

131st—1732, 9th May—*proces verbal* of Messrs. Perrier and Salmon respecting the arrival of 146 Swiss soldiers.

132d—1760, 2d June—result of the sitting at the government house respecting certain works to be undertaken.

133d—1707, 22d June—proposals of M. le Count de Pontchartrain for the formation of a company in Louisiana.

134th—1733—M. de Bienville announces his arrival at the Cape François; hopes to be in New Orleans thirty days after.

135th—1732, 12th May—letter from M. Salmon touching the condition of Louisiana and Mobile.

136th—1715—extract of a letter written at Caskasias, a village in Illinois, sometimes called l'Immaculée Conception de la Ste. Vierge, dated 9th November, 1712, by Father Gabriel Marest, a Jesuit residing since several years in that country as a missionary. This letter was printed in 1715 in the "Letters Édifiantes;" it is full of interest, and contains great statistical information.

137th—1761, 12th Dec.—letter of M. Thiton de Sileque in behalf of M. de Kerlerec, stating his services for the King.

138th—No date—picture of the troubles in Louisiana, and of the demoralization occasioned by paper money; plan to restore confidence; means recommended: "to coerce forthwith the withdrawal of paper money and its payment in full." This document appears to have been written in 1760.

No date—M. de Kerlerec asks the cordon rouge and sends his "feuille de service."

139th—No date—remarks on the commerce of Louisiana and its cession to Spain. This document must have been written in 1770.

140th—1764, May—memorial of M. de Kerlerec on the advantages of a commercial treaty with Spain, with the view of establishing an *entrepot* in New Orleans.

141st—1764, May—letter of M. de Kerlerec enclosing the above memorial.

142d—No date—extracts of all the letters of M. de Kerlerec on the demoralized condition of Louisiana. This document must have been written in 1764.

143d—No date—memorial of the corps of Engineers; the artillery and cadets of Louisiana.

144th—No date—memorial on the population of Louisiana; Paris and other large cities of the kingdom had been sending to Louisiana their debauched women; fortunately for the colony, says the paper, the women died as they arrived; recommends colonization on a more respectable plan.

145th—No date—Memorial on Louisiana, from which it appears that the Capuchins established themselves there in 1722; that their establishment obtained the royal sanction on the 15th July, 1725; that the first treaty between the Jesuits and the West India Company was entered into in 1721; and that they obtained the royal sanction to their

establishment on the 20th February and the 17th August, 1726; that their ecclesiastical functions were subject to the control of the Superior of the Capuchins.

PORTFOLIO NO. 3.

146th—1765, 1767—correspondence of Aubry and Foucault with the government touching the administration of the country.

147th—1763—project of evacuation of Louisiana by the French on the cession to Spain.

148th—No date—memorial on Louisiana. This document appears to have been written towards the year 1730; it is remarkable for its extensive views; it treats of the country of Mobile, of the Balize, of its passes, of the country between the Balize and New Orleans, of the neighborhood of this city, of Pointe Coupée, of Natchez, of Arkansas, of Illinois; it contains 40 pages, and concludes by offering a plan of colonization for the whole. On the passes it states:—

"River St. Louis (Mississippi) throws itself into the sea by five mouths, thus distinguished:—eastern pass, south-east pass, south pass, south-west pass and the Balize. In 1720 the south pass was the only one used.

"It has been observed since these passes have been used, that only one or two can be navigated at the same time, and that even then they have only 10 to 12 feet water on their bars, which vary each year according to the violence of the winds, etc., etc.

"Besides these five passes, the river throws its waters through smaller issues forced by it and called bayous. If three of the above passes were closed, as also the bayous, all the waters would be forced into the two passes situated in opposite directions, such as the pass of the east and the south-west pass; the current being increased there would be less deposits; besides the wind from the sea, which would stem the current of one pass, by throwing a greater bulk of water in the other would increase its current, whereby the bar thereof would clear itself of mud deposits, etc., etc. These passes and bayous may be easily closed by three or four rows of *pilotis* placed close to each other, and at a distance of about 150 to 200 toises from the mouth of the Mississippi to the pass. The interval would serve as a bed for the drift wood, which being thus stopped would soon be covered with the deposits of the river. I believe that such a work would soon afford a great protection against the river."

A plan is presented for the employment of 325 white families, and 19,000 blacks, in the cultivation of the sugar cane and tobacco.

149th—1710—memorial on the advantages to Louisiana of inviting the Acadians established at Detroit to return to this colony.

150th—1778—memorial of Mad. Dubreuil, praying for a pension from the French government as daughter of M. Delachaise, director of the West India Company, who was the first administrator of Louisiana, whose wisdom and activity tended to consolidate the colony.

151st—No date—memorial of the citizen Bounevie to the citizen Decrès, minister of marine and the colonies, proposing to undertake an exploring voyage from the western part of Louisiana to the Pacific Ocean.

152d—1754—exposé by M. Colon, of the advantages to France of the possession of Louisiana. This paper is highly interesting and full of statistical information; it treats fully of the agriculture of the country.

153d—1754—memorial of M. Colon on the commerce of Louisiana.

154th—1754—project of association for Louisiana by M. Colon.

155th—No date—picture of the wretched condition of the colony produced by the depreciated currency; plan to restore confidence. This document must have been penned about the year 1765 or 1766.

156th—*An* 12, Frimaire 20—proces verbal of the "prise de possession" of Louisiana by France. This document is signed Laussat, and is addressed to the citizen Decrès, minister of marine and the colonies.

157th—1766 to 1768—private letters of M. Foucault to the French minister, No. 1 to 70.

158th—Paris, 29th Fructidor, *An* 9—memoranda on Louisiana, by M. Joseph Pontalba, of Louisiana. Its position as to the United States; its population; the character of its inhabitants; its culture; its commerce; its resources; the importance it might acquire and the means to obtain the same. Speaks of a plan proposed by a rich inhabitant of Ohio, (evidently Gen. Wilkinson,*) to detach the whole of the western country from the east, to form an independent government with Louisiana, etc., etc. This document, dated "Croissy, near Chalons," is addressed to the minister Decrès.

---

* We shall consider this matter at large in our next number, in an article on Louisiana.—Ed. Review.

Art. IV.—ON INTEREST, EXCHANGE, AND STOCK-JOBBING CALCULATIONS.

To a great commercial nation, few subjects can be considered of more importance than an accurate acquaintance with arithmetical calculations. Without a knowledge of figures, the statesman, the merchant, and the mechanic, as well as the philosopher, are left to grope their way in doubt and uncertainty; and when ignorant of the principles of arithmetic as a science, it is scarcely possible that men can become confident, accurate, and expert in the application of its rules to the various departments of business. How many?—how long?—how high?—what share?—what profit?—what loss?—what per centage? are questions daily put in the common occurrences of life, and it is the province of the calculator to return correct answers to them.

With our admirable system of numbers, as compared with the clumsy and unwieldy methods of calculation pursued by the ancient nations of Europe, we owe, perhaps, much of the superiority to which we have arrived in the paths of physical science; and independently of the pecuniary advantages to be gained from an intimate acquintance with the most approved methods of calculating, the close and patient investigation which the study requires cannot fail to strengthen and invigorate the reasoning faculties. Of the numberless uses to which the ten characters borrowed from the Arabians can be applied, none are of more extensive application, and enter more into the business of life, than those which refer to calculations on Interest, Exchange, and Stock-Jobbing Calculations, and on each of these, in their order, a few observations will be made.

On Interest.—It is impossible to say at what period interest first began to be exacted for money given in loan, but it is evident that its origin must be nearly cœval with the division of property, and the first dawning of commerce. For many ages exacting of interest was considered inconsistent with Christianity, and prohibited under severe penalties, but the practice still prevailed, and in proportion as the penalties were severe, the rate of interest became the more exorbitant. From the year 1255 to 1270, no less than 50 per cent. per annum was charged for the use of money in Great Britain; from 1270 to 1307, 45 per cent. was charged, and between 1307 and 1470 interest had fallen to 15 per cent. In England, under Henry VIII. interest was permitted by law in 1545, and the rate limited to 10 per cent. In 1624 the legal interest was reduced to 8 per cent.; in 1660 it was still farther reduced to 6 per cent.; and in 1714 it was enacted that no person is to take for the loan of moneys above five pounds "for the forbearance" of one hun-

dred for the space of one year; and that all bonds and contracts for a higher rate of interest to be void and null, and the offender to forfeit triple the value of the sum lent. This act is still in force, regulating the legal rate of interest, and the penalty against usury. But 12 per cent. is legal interest in the East Indies; 8 per cent. in New South Wales; and 6 per cent. in Ireland. Although 5 per cent. is legal interest in Britain, and anything beyond it is termed usury, and liable to be punished, yet in other countries much higher rates of interest are tolerated. But the profits resulting from the employment of capital in some countries, are now in general so small that the market rate of interest has fallen much below the legal rate.

The Bank of England gives no interest on any moneys lodged in it, but all the established banks in Scotland have been, and still are in the habit of giving interest, both on deposit accounts, and on the balances of cash and current accounts. But the difficulty of investing their capital profitably has, for some time, obliged them to reduce considerably the rate of interest allowed; and unless a change take place in their favor in the money market, they must soon for their own safety, withhold interest altogether on deposit accounts.

Exchange.—The doctrine of Exchanges is too extensive and too intricate to admit of being fully explained in an article of this description, and all that can be attempted is a few cursory observations to illustrate some of its leading principles.

Exchange is transacted by bankers and merchants by means of bills of exchange, settling the mutual claims of distant countries without remitting money. Suppose A of New Orleans owed to B of London, one thousand dollars, and C of London owed to D of Paris one thousand dollars, these debts might be settled, if D would draw a bill upon C for $1000, and sell it to A, he would remit it to B, who would receive the amount from C, and thus the several claims would be answered without remitting money. The par of Exchange between different countries is estimated by the weight and fineness of the coins compared, and generally remains the same so long as these are not altered. The principal exceptions to this are, when the coins compared are not of the same metal, that is, the one silver and the other gold. In these cases the par fluctuates with the relative value of gold and silver bullion. Gold and silver are generally in a small proportion more valuable in countries remote from the mines, occasioned by the expense and risk of transporting them.

The course of exchange between two countries is seldom at par, for this can never happen unless the exports and imports between them are precisely equal. Suppose that America exports to England the same value of goods that England exports to America, then the exchange is

at par, that is, the mutual debts of the two countries are equal. But if the exports from America to England should exceed the imports from England, then the balance of trade is against England, and the demand in London for bills on New York, to remit this balance, will exceed the supply, and accordingly they will rise in value: whereas the supply in New York of bills on London, will exceed the demand, and consequently they will fall in value, and the exchange will be favorable to New York, and must continue so till the imports at New York equal or exceed the exports from it. The course of exchange can scarcely ever exceed the expense of remitting money, or bullion, for then merchants would remit money to pay their foreign debts in preference to purchasing bills. Again, when the course of exchange is against any country, it acts as a premium for exporting goods to that country to which it is in debt, as the bills obtained in payment are more valuable on that account. Besides, through the management of bills, merchants in effecting circular exchanges, the fluctuations of the course of exchange are generally confined within very narrow limits. From the combined operation of these causes, the course of exchange can never for any length of time, be very much either above or below par.

In every exchange, a fixed sum of the money of one country is always given for a variable sum of the other; and therefore, in all cases, the higher the exchange, the more profitable for the country which gives the fixed sum or rate, and the worse for the other. Every merchant engaged in foreign trade must have occasion frequently to draw and remit bills of exchange; he will therefore find his interest in being thoroughly acquainted with the arbitration of exchange, by which he may often gain more than those who are ignorant of its advantages do by the ordinary profits of their business. But in finding a profitable channel for drawing and remitting, it should always be kept in mind, that the circular exchange must exceed the direct by more than the additional expenses required, otherwise the direct is the preferable. Those who wish to study this subject fully, will find it ably discussed by Mr. Kelly, in his work "On Exchanges," which is acknowledged to be the most correct and comprehensive system of exchanges in any language.

Stock-jobbing Calculations.—The stocks are the debts contracted by government in the name of loans, for defraying the expense of the public service. Public records are kept of these loans, which amount to an acknowledgment that the nation owes to the lenders or holders the sum specified in these records. The interest of these sums is paid from a fund appropriated by government out of the revenues of the country for that purpose, and therefore they are called funded debts. The interest on these debts is paid half yearly, and the stock or principal is

transferable at the pleasure of the holder. The calculations in stock-jobbing are all connected with the selling and purchasing of these funds. The real value of property in the funds is fluctuating, for, although the rate of interest is fixed, yet many causes operate in changing the market value of the principal, or stock, frequently in the course of a single day, and a knowledge of these causes is necessary to speculate with advantage in the public funds in England.

A large proportion of the national debt of that country is vested in two funds bearing interest at 3 per cent. on the nominal capital. The largest of these is the Three Per Cent. Consols, or consolidated annuities, so called from having been formed by uniting several funds which were formerly kept separate, and the Three Per Cent. Reduced Annuities, which are so called from having had the original rate of interest reduced from four to three per cent. Besides these, there are several other stocks, which generally receive their names from the rate of interest granted. These are the Four Per Cent. Consols, the New Four Per Cents., the Three and a Half Per Cent. Consols, the Three Per Cent. Imperial Annuities, so called because the loans of which they are composed were for the Emperor of Germany, and sanctioned by the British government. All these are permanent annuities. There are also long annuities which terminate in January, 1860, and are sold at so many years purchase.

The interest, dividends or annuities on the Three Per Cent. Consols, Three Per Cent. Imperial, New Four Per Cents., South Sea Stock, and New South Sea Annuities, are all payable at the Bank of England on the 5th of January and the 5th of July; and on all the other stocks on the 5th of April and 10th of October. The transfer books of every description of stock are shut nearly a month before the day of paying the dividends, and remain shut for about fourteen days after that date. The person in whose name the stock stands when the transfer books are shut, receives the interest for the preceding half year.

When stock is sold, the purchaser becomes entitled to the interest due upon it, and this is the reason why the Three Per Cent. Consols, and the Three Per Cents. Reduced, which are payable at different terms, never sell at the same price. The same reason applies equally to the Four Per Cents., and New Four Per Cents. The difference of price between these stocks arises entirely from the difference of interest due upon them at the time; and it often requires considerable nicety of calculation to ascertain which of them is the preferable investment.

When a new loan is authorized by government, it is made payable by instalments, and a certain portion of nominal stock bearing interest at 3½ and 4 per cent., and a small portion of the Long Annuities is generally offered by the Chancellor of the Exchequer for each £100

to be advanced, and he who gives £100 for the least portion of these different stocks, is always preferred. During the progress of the loan, or till all the instalments are paid up, the several stocks thus united are transferable together, and are therefore called *Omnium;* but when sold separately, they are called Subscription Receipts, or Scrip. When any person pays up the whole of the instalments at once, his receipt is, in the language of exchange, generally called "heavy horse;" and the receipt for one or two instalments is called "light horse," and is better adapted for speculation than heavy horse.

The capital of the Bank of England, amounting to 14,553,000 pounds sterling; the nominal capital of the East India Company, amounting to 6,000,000 pounds sterling; and the capital of the South Sea Company are called *Stock*, and transferable like government stock, but they do not belong to what is termed the Funds, or funded debt of the country. There are other sums raised by government, for the payment of which no special provision has been made, and are therefore termed unfunded debts; and under this head may be classed Exchequer, Navy, and Ordnance Bills.

The business of stock-jobbing is almost entirely transacted by stock-jobbers, who find it their interest to keep the art of dealing in the stocks as mysterious as possible; they are allowed $\frac{1}{8}$ per cent. or 2s. 6d. per pound for every hundred pounds of stock which they buy or sell. Every person is at liberty to transact his own business on stock-exchange without the assistance of a broker, if he is on the spot, and feels so disposed; but unless he has considerable experience in the alley, he will not find this much to his profit.

Before concluding, it may not be uninteresting to lay before the reader a short explanation of the way in which the price of stocks is calculated for one day; say price of stocks, March 17th:—

Bank Stock, 266,—signifies that £226 must be given on that day to purchase £100 of that stock, the annual interest of which is about 10 or 11 per cent.

India Stock ——,—means that none of this stock was sold on the day.

Three Per Cent. Reduced, 62⅞, 63⅛, 63,—means that the price of this stock fluctuated in the course of the day, etc. etc.

To enter into a minute detail of all the particulars respecting the transfer of stock, the groundless rumors circulated to produce a temporary rise or fall in the market, the artifices resorted to in order to serve some interested purpose, and the endless variety of *Bull* and *Bear* transactions entered into by brokers and others, where no real stock is concerned, are sufficient to fill volumes, and of course cannot have a place in this periodical.

Art. V.—THE ANCIENT SOURCES OF LOUISIANA LAW.

The sources of the Law of Louisiana, distinct from her statutory law, are found in the Spanish codes. It is true that while Spain was a Roman province, the civil law, as recognised in Rome, and as now found in the Pandects, did govern the jurisprudence of that country; but it was gradually superseded by the rules from time to time established by the Vandals, Alans, and Suevians, and finally by the Goths. After these had been conquered by the Moors, especially after these last in their turn had been defeated, the lights of the civil law again began to appear, amidst the arbitrary regulations previously existing. The first systematic code of Spanish laws of which we have any authentic account, was one adopted by a body of the clergy before the invasion by the Moors in 714. The civil law had ever been a favorite system with Ecclesiastics. It vested in them extraordinary authority and privileges. —It taught veneration for the church, its ministers, and its property. It was therefore natural for the clergy to feel deeply interested in the renewal of its principles. To them, I am satisfied, we are indebted for the care and protection of this code of laws. Had its preservation depended on statesmen and lawyers only, much of it would have been lost in innovation. But the clergy looked upon the whole body of the civil law as the property of the church, and protected it with religious care. This view is sanctioned by a glance at all the enactments of those times. They will be found, without exception, to be principally devoted to a consideration of sacred things. It is from the codes of laws, thus built upon the principles of the civil law, that much of the law of Louisiana is derived. The first of these was the *Fuero Juzgo.* It was established almost wholly by the clergy. The name may be translated, the adjudged law, or declared statute law. ' This body of laws embraced twelve books: The first related to the election of kings and legislators, and of the mode of making laws. The second treated of judges, of civil magistrates, and of civil judgments, and the prosecution of actions. The third concerned marriages and successions. The fourth and fifth related to the alienations of the property of the church, of donations and of contracts. The sixth, seventh, eighth, and ninth, had reference to criminal law, and treated of the forms of accusations and penalties. The ninth had reference to fugitive slaves, deserters, &c. The tenth prescribed the mode of partition in lands, prescriptions, &c. The eleventh had relation to the violation of sepulchres, of the sick, of physicians, of merchants. The twelfth related to equity, of heretics, and of injuries. The character of this code was warlike, partaking, of course, of the character of the times, and suited to the objects of an elective monarchy. It continued until the beginning of the eighth century,

when the Moors having invaded the country, the Goths retired to the mountainous parts of Asturias, Burgos, and Biscay. In the early part of this century Pelagio, or Pelayo, a prince of the royal blood, who had retired with a few Goths to the province of Liebunne, headed the remains of this people, and by consummate bravery and prudence, succeeded in mastering the Saracens. In 745, Alphonso, the Catholic, who was the son-in-law to Pelagio, pushed these conquests over several provinces. During the period of these contests, it became a matter of policy with the prince, to ally to his cause the nobility, and the inhabitants of the cities. Out of this scheme arose two important systems of laws. The establishment of feuds, and the grant of municipal or town privileges, which soon began to appear in new codes.

In 992 a more settled state of public affairs produced a more civilized society, and occasioned a necessity for another improved collection of laws. One was about this time established called the Fuero Viego, or old laws, and was probably so called because consisting of decisions of the prince and his ministers, and of old well settled customs. It contained five books. The first treated of the relations between the kings and the people; of the obligations of vassals; of the right of vassals to protection; of judicial combats; of the use of arms; of vassals of the soil; of free towns and laws; of penalties for the oppression of vassals by the powerful, by unjust seizure of their provisions, particularly relating to city vassals. The second embraced penal laws and crimes. The third had relation to the formalities which governed pleas in justice; of proofs and sentences; of debts, surety-ship, &c. The fourth embraced contracts; dominion over things; of public works; of the construction of mills. The fifth concerned the portion settled on the wife by the husband; of inheritances; of partition of land given for rent; of tutors; of disheritances; of legitimate and illegitimate children; and an appendix.

In this code we begin to discover the gradual advance of the nation from a despotic military state of subjection, to one in which the arts of peace and the comforts of civilized life became more the objects of the law. We see some attempts at defining the power of the king; of regulations for the subjection of the vassals, but also for their protection; of attempts to control the indiscriminate use of weapons; of penal laws; of the formalities of administering justice; and what is the better evidence of an improved and peaceful society, laws regulating contracts, and the possession of property.

These codes continued to receive new accessions and modifications until the year 1137, when the discovery, or if the advocates of M. De Savigny please, the promulgation of the Code and Pandects of Justinian produced an entire change in the history of jurisprudence. The im-

provements resulting from this reaction in favor of the original principles of the civil law extended to Spain; and if not wholly superseding the codes to which we have referred, at least essentially modified them. Full proof of this assertion is found in the system of laws formed by De Penafort in 1234; which was indeed but an improvement of the code of Gratian. In this system the plan of the Pandects is closely followed. It was divided into five books. The first treated of the dignity of persons; of ecclesiastical judgments. The second continued to treat of ecclesiastical judgments. The third related to the persons of ecclesiastics; of benefices; of prebendaries; of the construction of contracts; of the construction of contracts relating to church property; of jurisdiction of persons; of jurisdiction of persons with respect to their privileges; of the immunity of churches; of the clergy, &c. The fourth embraced the laws of the church relating to marriage; of antecedents and their consequences. The fifth embraced criminal jurisprudence; penalties for ecclesiastical crimes; church censures; significations of words; and maxims of the law.

In this code we see the influence of the church preponderating. Ecclesiastical affairs, church property, religious offences and censures, preceding everything except the rights and authority of the prince; while, as said before, the method of the Pandects is pursued, so as to show how fully that code, in every principle relating to the protection of the church, is grafted on the system pursued by De Penafort.

Thus continued the law until Ferdinand the third, and his son Alphonso the Wise, undertook the reform of the whole body of the law. Their design was completed by Alphonso, after the death of Ferdinand, in two codes. The first was the Fuero Real or Royal law. It embraced four books. The first related to the observance of the Christian faith: to the means of preservation of the king, and his children; of the obligations of a christian king, and of his subjects; of morals and conduct in private life; of titles to church property: of public officers, such as alcades, advocates, notaries, &c. The second treated of judicial proceedings; of tribunals; of commencing suits; of issues; of proof and exceptions; of final judgments. The third relates to matrimony; jointures; aqueducts and gains; division of rented land, legacies, estates in trust, inheritances, tutorships, and contracts. The fourth treated of Jews, Saracens, and their slaves, penalties for crimes, adoptions, emancipations, pilgrims, ships, &c. The second code was the Partidas. This consisted first of the canon law. Second of ancient laws and the customs of the nation. Third of an abridgment of so much of the Roman law as related to judgments, contracts, wills. Fourth of so much of the canon and civil law as concerned espousals, matrimony, &c. Fifth, of crimes and their penalties; and sixth of the signification of words.

In these two systems we discover an evident improvement in the judicial establishments of Spain. In them, indeed, Alphonso performed for his nation what Justinian did for Rome. The first code, though defective in what may be properly termed public law, was a well adapted body of laws to the existing state of society; in fact, a code calculated to improve a people in all that related to the rights of persons and things. The omissions, with respect to public law, were supplied in the Partidas, which combined whatever was necessary. This last seemed to have chiefly in view the establishment of a permanent public authority, and the promotion of the national happiness. It provided for the peaceful and continued succession to the throne; for the maintenance of religion; for the ecclesiastical order; for the punishment of offences; and for population. It was, however, not published until 1348; and in the meantime, and subsequently, other laws of a less systematic character had been and were enacted, and for a time maintained some authority. These were, first: Laws *De Estilo*, or laws concerning the forms of proceedings in suits of law. They related to judgments in civil and criminal causes; to persons authorised to appear in courts; to proofs; to contracts, and wills; and to practice in the courts. Secondly, the Pragmaticus, or royal edicts, some of which related to the manner of conducting suits; contracts; testaments; and penalties for crimes. Thirdly: the laws of Toro, enacted in 1505, and which regulated the solemnity of wills; successions *ab intestato*, and by will; legacies to one heir, excluding another; the succession of nobles; the support of natural children; the penalty for adultery, &c. Fourthly, the Ordenamiento Real, or royal law, consisting of ordinances, proclamations, and other royal determinations. All these however became incorperated into another code,—the Recopilacion, or summary of laws. This was established by Philip the Second in 1567. It consisted of nine books and embraced numerous titles. The first book contained thirteen titles, treating of the Catholic religion, and ecclesiastical affairs. The second treated of laws generally, duties of presidents, of audiences, chancellors, judges, superior officers of courts, the council, &c. The third related to the government of various tribunals; officers of justice in cities, and provinces, officers of exports, rural matters; management of cattle; surgeons, apothecaries, &c. The fourth concerned the royal authority; judgments; mode of carrying on suits; pleas; answers; testimony; practice; contempts; sheriffs; jailors; their fees, &c. The fifth treated of marriage; inheritance; successions; contracts; banks, and their officers; goldsmiths; bakers; commissioners of wills; legacies; succession of nobles; taxes, &c. The sixth treated of knights and gentlemen; towns; vassals; cattle; fortresses; the Cortes; ambassadors; inspections; tributes; ports;

exemptions from taxes; gamekeeper to the king; the young of noble horses, &c. The seventh related to corporations; rents and property of councils; privilege of cities; taxes; limits of commons; ships; artisans; regulation of dress; cloth manufacture; chandlers; tanners, &c. Offences; penalties; punishment of death; challenges, &c. The ninth treated of the royal treasury; the treasurer and auditor; the treasury; council; recovery of taxes; royal rents; tariffs of duties, &c.

After this last collection a new code of laws was adopted, suited to the state of affairs existing in the newly discovered countries in the West, and termed the *Recopilacion de las Indias*, or Summary of Laws for the Indies. It embraced first, ecclesiastical; second, the council of the Indies, and superior and inferior tribunals; third, royal domain, officers, viceroys, presidents of military affairs, ceremonies, post offices, Indian couriers; fourth, discoveries by sea and land, cities population, their rights, contributions, gold and silver mines, pearl fisheries, manufactures of cloth; fifth, boundaries of different governments, the holy brotherhood, police of cattle, physicians, order of judicial proceedings, domicil; sixth, Indians; seventh, criminal jurisprudence; eighth, royal treasury; ninth, regulation of the armada, or fleets carrying on commerce of the colonies with Spain.

The writer has not had the opportunity of seeing how far the provisions of these several codes, either by statutory adoption or the decisions of the courts, have become grafted on the existing jurisprudence of Louisiana. He has prepared it from crude notes of readings years ago, without even remembering the sources of his information. He has discovered in Alabama, especially, a prevailing opinion that the law of Louisiana is alone the *corpus juris civilis*. Even the erudite author of Law Studies has committed this error. (Introduction to Law Studies, by Warren, p. 252, last edition.) In the hope that he may be corrected in this error, whose practice and studies do not authorise the investigation, he submits it, hoping the Louisiana bar will pardon the effort to treat of the ancient sources of their law, and excuse any errors which their better knowledge may discover.

COMPARATIVE PRICES OF NEW ORLEANS SUGAR AND MOLASSES IN NEW ORLEANS AND CINCINNATI.

WEEKS.	1843.—Crop 140,000 hhds.				1844.—Crop 100,000 hhds.				1845.—Crop 200,000 hhds.			
	NEW ORLEANS.		CINCINNATI.		NEW ORLEANS.		CINCINNATI.		NEW ORLEANS.		CINCINNATI.	
	Sugar.	Molasses.	Sugar.	Molasses.	Sugar.	Molasses.	Sugar.	Molasses.	Sugar.	Molasses.	Sugar.	Molasses.
	3 40–100	14 77–100	4 97–100	19 46–100	6 11–100	23¼	6 65–100	30 53–100	5	21 83–100	5 75–100	28 47–100
January 1	3 @ 4½	12 @ 13½	5 @ 6½	23 @ 25	41 @ 7½	22½ @ 23	51 @ 6½	26 @ 27	21 @ 5½	16½ @ 17½	44 @ 5½	23 @ 25
8	3 : 4½	11 : 12	6½ : 6½	23 : 25	44 : 7½	23 : 23	54 : 6½	27 : 28	21½ : 5½	16½ : 17	44 : 5½	22½ : 25
15	3 : 4½	11 : 12	5½ : 6½	23 : 25	5 : 7½	22½ : 23	6 : 7	29 : 30	21 : 5½	15 : 17	4 : 5½	22 : 24
22	3 : 4½	11½ : 12	5½ : 6½	23 : 25	5 : 7½	22 : 23	6 : 7	29 : 30	21 : 5½	15 : 17	4 : 5½	22 : 24
29	3 : 4½	12 : 12½	5½ : 6½	23 : 25	5 : 7½	22 : 23	6 : 7	29 : 30	21 : 5½	15 : 17	4 : 5½	22 : 24
February 5	3 : 4½	12½ : 13	5½ : 6½	23 : 25	5 : 7½	22 : 23	6 : 7	29 : 30	21 : 5½	15 : 16½	4 : 5½	22 : 24
12	3 : 4½	12½ : 13	5½ : 6½	23 : 25	5 : 7½	22 : 23	6 : 7	29 : 30	21 : 5½	14½ : 15½	3½ : 5½	21 : 24
19	3 : 4½	12½ : 13	5½ : 6½	23 : 25	5 : 7½	22 : 23	6 : 7	29 : 30	21 : 5½	14½ : 15½	3½ : 5½	21 : 24
26	3 : 4½	12½ : 13	5½ : 6½	23 : 25	5 : 7½	22 : 23	6 : 7	29 : 30	21 : 5½	14½ : 15½	3½ : 5½	21 : 24
March 5	3 : 4½	12½ : 13	5½ : 6½	23 : 25	5 : 7½	22 : 23	6 : 7	29 : 30	21 : 5½	14½ : 15½	3½ : 5½	21 : 24
12	3 : 4½	13 : 13½	5½ : 6½	23 : 25	5 : 7½	22 : 23	6 : 7	29 : 30	21 : 5½	14½ : 15½	3½ : 5½	21 : 24
19	3 : 4½	13 : 13½	5½ : 6½	23 : 25	5 : 7½	22 : 23	6 : 7	29 : 30	21 : 5½	14½ : 15½	3½ : 5½	21 : 24
26	3 : 4½	13 : 13½	5½ : 6½	23 : 25	5 : 7½	22 : 23	6 : 7	29 : 30	21 : 5½	14½ : 15½	3½ : 5½	21 : 24
April 2	3 : 4½	13 : 14	5½ : 6½	23 : 25	5 : 7½	22 : 23	6 : 7	29 : 30	21 : 5½	14½ : 15½	3½ : 5½	21 : 24
9	3 : 4½	13 : 14	5½ : 6½	23 : 25	5 : 7½	22 : 23	6 : 7	29 : 30	21 : 5½	14½ : 15½	3½ : 5½	21 : 24
16	3 : 4½	13 : 14	5½ : 6½	23 : 25	5 : 7½	22 : 23	6 : 7	29 : 30	21 : 5½	14½ : 15½	3½ : 5½	21 : 24
23	3 : 4½	13 : 14	5½ : 6½	23 : 25	5 : 7½	22 : 23	6 : 7	29 : 30	21 : 5½	14½ : 15½	3½ : 5½	21 : 24
30	3 : 4½	13 : 14	5½ : 6½	23 : 25	5 : 7½	22 : 23	6 : 7	29 : 30	21 : 5½	14½ : 15½	3½ : 5½	21 : 24
May 7	3 : 4½	13 : 14	5½ : 6½	23 : 25	5 : 7½	22 : 23	6 : 7	29 : 30	21 : 5½	14½ : 15½	3½ : 5½	21 : 24
14	3 : 4½	13 : 14	5½ : 6½	23 : 25	5 : 7½	22 : 23	6 : 7	29 : 30	21 : 5½	14½ : 15½	3½ : 5½	21 : 24
21	3 : 4½	13 : 14	5½ : 6½	23 : 25	5 : 7½	22 : 23	6 : 7	29 : 30	21 : 5½	14½ : 15½	3½ : 5½	21 : 24
28	3 : 4½	13 : 14	5½ : 6½	23 : 25	5 : 7½	22 : 23	6 : 7	29 : 30	21 : 5½	14½ : 15½	3½ : 5½	21 : 24
June 4	3 : 4½	13 : 14	5½ : 6½	23 : 25	5 : 7½	22 : 23	6 : 7	29 : 30	21 : 5½	14½ : 15½	3½ : 5½	21 : 24
11	3 : 4½	13 : 14	5½ : 6½	23 : 25	5 : 7½	22 : 23	6 : 7	29 : 30	21 : 5½	14½ : 15½	3½ : 5½	21 : 24
18	3 : 4½	13 : 14	5½ : 6½	23 : 25	5 : 7½	22 : 23	6 : 7	29 : 30	21 : 5½	14½ : 15½	3½ : 5½	21 : 24
25	3 : 4½	13 : 14	5½ : 6½	23 : 25	5 : 7½	22 : 23	6 : 7	29 : 30	21 : 5½	14½ : 15½	3½ : 5½	21 : 24
Average	3 : 4½	13 : 14	5½ : 6½	23 : 25	5 : 7½	22 : 23	6 : 7	29 : 30	21 : 5½	14½ : 15½	3½ : 5½	21 : 24

SUGAR CROP OF LOUISIANA FOR 1845.

Mr. P. A. CHAMPOMIER has just issued his Annual Statement of the Sugar Crop of Louisiana. It is a neat pamphlet of some thirty-seven pages, containing the name of every Sugar Planter in the State, the product of each Plantation, and much other matter, which renders it a work of great value to all interested in the growth and consumption of this important staple of Louisiana. After enumerating the different plantations, with the product of each, &c., Mr. C. furnishes the following interesting

RECAPITULATION.

Names of Parishes.	No. of Planters.	No. of Sugar Houses.	No. of Steam Power.	No. of Horse Power.	No. of hhds. Sugar.	No. of 1000 lbs. nett.
Pointe Coupée	51	40	34	6	1,206	1,259
West Baton Rouge	78	52	39	13	4,961	5,918
East Baton Rouge	54	35	16	19	4,222	4,856
Iberville	194	116	74	42	15,624	17,417
Ascension	96	63	42	21	16,906	19,119
St. James	197	81	53	28	17,515	19,390
St. John the Baptist	145	61	33	28	9,909	10,445
St. Charles	94	39	34	5	10,650	11,145
Jefferson	49	29	29	..	7,541	8,185
Orleans and St. Bernard	47	26	22	4	5,670	6,191
Plaquemines	77	45	33	12	11,321	12,578
Assumption, Bayou Lafourche	206	137	41	96	12,076	13,487
Lafourche Interior	164	98	33	65	11,116	12,144
Terrebonne	104	78	42	36	12,080	13,509
St. Mary, Attakapas	283	179	80	99	24,722	29,194
St. Martin, do	115	69	9	60	5,246	6,221
Vermillion, do	33	19	1	18	1,176	1,326
Lafayette, do	11	7	..	7	365	403
St. Landry, Opelousas	37	26	5	21	1,352	1,558
Calcasieu, do	11	11	1	10	119	119
Sundries and Molasses Sugar	..	..	..	..	3,000	3,000
Cistern Sugar	..	..	..	..	9,873	9,873
Avoyelles, Red River	8	7	2	5	....	....
Rapides, do	19	18	5	13	....	....
Catahoula, do	1	1	..	1	....	....
Concordia, do	1	1	..	1	....	....
West Feliciana, Mississippi River	2	2	2	..	....	....
Total	2077	1240	630	610	186,650	207,337

To this are appended the following explanatory

REMARKS.

I have thought proper in this recapitulation to include the Cistern Sugar, estimated at 5 ℔ cent. on the crop, believing that a large portion of it will be re-boiled by the Planters themselves, as the Refiners last year lost money at the prices they paid, and besides it is really Sugar, and should therefore be estimated in the crop.

The Molasses, as was the case the last year, is generally estimated as less than usual; but whilst the old plantations have made less than usual, the new ones have given a fuller yield, and it will therefore not be correct to estimate it at less than 45 gallons ℔ 1000 lbs. Sugar, or upwards of 9 millions of gallons.

Though, with extended culture and new plantations on the river and Bayou Lafourche, the Parishes have yielded less than last season; with a few exceptions all planters have fallen short, while the Attakapas Parishes have produced considerably more than last season.

The early frost has probably injured the crop to the full extent of 15,000 hhds. and some crops have been entirely lost by not being ready in time to grind; one large crop by the Sugar house being burnt when just begun making sugar.

Since completing my work I have learned of the existence of several sugar houses having made sugar the past season, but as it was too late for me to visit them, I have concluded not to notice them for the present.

I find there will be in full operation in 1847-8, 1240 sugar houses owned by 2077 separate proprietors or heads of families; the produce this last year from 955 sugar mills is 186,650 hhds., or 207,377 hhds. of one thousand pounds nett; that there are 204 sugar mills that will produce in 1846-47 and 81 that will produce in 1847-8, but fully expect the number will be still further increased, as there are such large bodies of sugar lands on the river and bayous that only require capital to place them under culture, and there is no doubt the culture of the cane can be extended further West, and I believe the day is not far distant when our Red River steam packets will be equally loaded with Sugar and Molasses as well as Cotton, as our Bayou Sara packets now are.

Of the 1240 sugar mills which will be in full operation in 1847-8 about 630 will be by steam power and 610 by horse power, but the former will rapidly increase, as a good many planters now working by horse power have already contracted for their engines, besides the new planters that are generally speaking preparing for steam engines.

Had my statement been deferred until the last of April, I have no doubt it would be ascertained that the crop is larger than I make it, as I am sorry to say that some parties interested, who view a large crop in a different light to what I do, have endeavored to lead me into error on that subject, though I owe my thanks to many who have assisted me in obtaining correct information.

CULTURE OF SILK IN LOUISIANA.

Mr. L. Garnier lately exhibited to the Legislature twenty two pounds of silk. produced by him, and spun in his house by individuals attached to his family, Mr. Garnier confesses that the results of his labor have not been encouraging, but that he does not yet despair. He refers to Mr. Maillé, who is making other experiments near Covington, on a farm, where he has already two hundred thousand *morus multicaulis*, and a steam engine for spinning silk. Mr. Garnier is earnest upon farmers to join in the enterprise, inasmuch as one million of that class in France are engaged in the pursuit, and the produce of their labour is one of the richest branches of the national industry.

MERCANTILE INTEGRITY.

The creditors of James Read of Boston have recently presented him with a costly service of plate, in testimony of their high appreciation of his character and conduct. Mr. Read, in the commercial embarrassments of 1841, was compelled to stop payment and go into bankruptcy for the sum of $850,000, his whole assets not producing over $800,000, leaving a balance against him of $50,000, from which, according to the usually understood rules of trade, he was discharged. This noble-minded individual looked upon the matter in another light, and having applied himself again to business with success, tendered his creditors, within a few months past, a check for the remaining $50,000. Let these things be recorded!

LIBRARIES IN NEW ORLEANS.

This city contains at present four libraries accessible to the public. The first in size and importance is the private library of B. F. French, Esq., now occupying two apartments in the Merchants' Exchange, Royal Street.

This extensive and unique collection of books, when no public library existed in the city, four years ago, was thrown open to the use of the public for reference, gratis, on which footing it still remains. It now contains about seven thousand five hundred volumes of standard works in the Greek, Latin, French, Spanish, and English languages; including works on statistics, commerce, history, biography, natural and physical sciences; besides some beautiful specimens of early printing, from 1452 to 1490, and most of the classical writers in folio, from 1495 to 1550.

A manuscript history of the English revolution in 1688; a manuscript history of the proceedings of the American Congress, held at New York in 1765, formerly owned and was presented to Mr. French by the Hon. Charles Thompson, Secretary of the Congress held in Philadelphia in 1774.

It would be extremely desirable to see this valuable collection of books forming a part of the collection belonging to the Public School Library of the Second Municipality, the city might then boast of the largest and best selected library in all the South-West.

The second in importance is the library belonging to the State, now located in the wing of the State House on Baronne street. It contains about 3000 volumes of well selected books, including a folio copy of Audubon's Ornithology, Dinon's Egypt, Humboldt's Travels, and Musée Français.

The third in size is the Public School Library of the Second Municipality, just opened in the City Hall on St. Charles Street. It contains about three thousand volumes, one half of which are valuable standard works in every department of literature. This is a subscription library, and is opened from 2 P. M. to 9 P. M. every day.

The fourth and last is the "Young Men's Free Library Association," located at the corner of Custom House Street and Exchange Place, First Municipality.

This is a new institution, and promises to be exceedingly useful. Files of papers from all parts of the Union may be seen here. The library contains about two thousand volumes of well selected books. It is a subscription library, and is opened every day from 9 A. M. to 9 P. M.

HEALTH OF NEW ORLEANS.

The total number of interments in the city of New Orleans for the year 1845, was 2,783; classified as follows, viz:—white adults, 1,287; colored adults, 386; white children, 683; colored children, 381; not distinctly marked, 46.

There is but little doubt that a greater number of extremely old people may be found in Louisiana than in any other state in the Union, as was shown by the last census; which proves that how much soever immigrants may suffer whilst undergoing acclimation, the climate *per se* is by no means inimical to longevity. We invite particular attention to the comparative mortality of the white and colored population: the statistics here given would indicate the deaths to have been greater amongst the colored than the white, in proportion to numbers.

We have long been under the impression, that when a fair comparison should be instituted, the annual mortality of New Orleans would be found to be as small in proportion to the population as any large city in the Union; or indeed, the world. The results of 1845 will show the fact with regard to Boston, which is esteemed one of our healthiest American cities, and we hope to be able to give in our next number, the comparison with New York, Philadelphia and Baltimore. We learn from a late number of the British American Journal of the Medical and Physical Sciences, that the mortality of Montreal, Canada, a city of about 50,000 inhabitants, for the month of December last, was 270; whilst the mortality in New Orleans for the same month was 246.

Now, taking the average annual population of New Orleans at 150,000, (which is probably considerably short of the mark,) our mortality of 2,783 would be about 1 in 54, or within a fraction of 1.85 per cent.

Our estimation of the population will surely appear most moderate, if it be recollected that the census of 1840, taken in the summer, gave us 102,000; that for three decennial periods previous, the population had been nearly doubled; that since 1840 the increase has probably been as great as at any time before; and that during six months of the year we are supposed to have a floating or transient population amounting to 40 or 50,000.

New Orleans is looked upon abroad as a perfect charnel house,—a Golgotha,—a "whited sepulchre," fair enough without, but within "filled with dead men's bones;" but the results of careful investigation would lead to a very different opinion. Will it be said that we are fortunate in having one of our most healthy years for the comparison? It is true we had no epidemic last summer; but we had as much other sickness as usual when yellow fever does not prevail.—*New Orleans Medical Journal.*

THE PUBLISHING BUSINESS.

Monograph of the Silver Dollar, Good and Bad. By J. L. Riddell, M. D., of the New Orleans Branch Mint. B. M. Norman.

We are obliged to Dr. Riddell for a copy of his work, which we have examined with much curiosity and interest. The work is one in which the pride of authorship could have had no place, since it could only have resulted from a disposition to be useful, at the cost of the most incessant and arduous toil. Nearly the whole of the three hundred pages is occupied with fac-simile figures of dollars and half dollars, four hundred and twenty varieties of the former and eighty-seven of the latter. To these figures are annexed tables of the weight, quality and exact value of the genuine, and of the modes of detecting the spurious. Dr. Riddell was urged to the undertaking by the discovery of so large a number of counterfeit Mexican dollars in circulation; and we should suppose that his labors would be in the highest degree appreciated by bankers, merchants and others, and in fact by all who have any interest and who has not, in the all-potent dollar. We publish the concluding note of his volume:—

"In conclusion, I will add, that I am especially desirous of getting any coins lately issued from foreign mints, and that anything in the way of curious coins and medals, old or new, will be thankfully received and liberally paid for. Persons meeting with counterfeit and doubtful dollars not contained in this work, by submitting them to me for examination, will not merely confer a personal favor, but will contribute, perhaps, to discourage the circulation of bad money. I will also be thankful for the temporary loan of curious coins."

The New Orleans Medical and Surgical Journal, for March, 1846.

The Southern Journal of Medicine and Pharmacy, for March, 1846.

The first named periodical has now been in successful operation for nearly three years, and enjoys a reputation equal to any work of the kind in the Union, and we are glad to perceive, is becoming more and more elevated in character. The latter is a new enterprise, undertaken by our talented friends Drs. SINCLAIR and SMITH, of Charleston, South Carolina, and if we are permitted to judge from the specimen numbers before us, it is destined to a very high reputation. We are glad to see these indications among and around us of a high tone of public sentiment, and of an appreciation on the part of the South and West, of literary and scientific researches. The day will indeed come when we shall no longer have to send abroad for that intellectual food which can be furnished us so richly at home.

Argument of Hon. B. F. Porter in the Alabama Legislature on the Common School Fund.

Argument of Hon. B. F. Porter in the Alabama Legislature on his Bill to Abrogate the Punishment of Death.

Our friend Judge Porter makes us much indebted by his favors. Where he argues boldly and with his whole soul, in advocacy of sound and general education, we go with him and say God speed, but in the matter of capital punishment we stop short of our friend. We admit his plea for its abrogation to be beautifully conceived and executed with touches of pathos, and perhaps with some show of argument. But really we can scarcely bring ourselves to listen to an argument now which seems

in the thousandth part of a degree to side with the fanaticism of the age. God knows that the world is getting full enough of sickly humanity; and the most pitiful lamentations and sighs are heard on the punishment of the most abandoned criminal in existence—so strong is the *sympathy* which the public are feeling for this much injured class. We are unwilling to change the laws. Let them stand as they are, and let the demon who has taken away in pure malignity that life which God alone can give, yield his own life to his injured country, and to the law of God which decrees him death. Judge Porter will pardon our warmth; but we are out of all patience with the school he unwittingly favors, and begin to understand Hume when he said that he might "believe in a miracle in proof of anything but religion—for the world has so often been deceived by that sort of thing."

Norman's Map of New Orleans and its Environs.

We like the enterprise of this publisher, and like to see it crowned with proper results. The map before us is amply large for reference, and may be all closed up neatly for the pocket. It is just out, and is said to be the most perfect yet presented to the public. It is decidedly a good thing; and gives the distances as well as localities, by placing the foot of a compass on the corner of Canal and New Levee streets and inscribing concentric circles, whose radii are respectively a quarter of a mile, half, three quarters, etc., etc., each.

Proceedings of the Stockholders of the South Carolina Railroad Company, etc. Charleston, 1846.

Really we do regret the want of space now to enter at large, as we shall hereafter do, upon this important document; and particularly upon the able railroad report of Col. GADSDEN, which it contains. Col. GADSDEN, it is well known, has identified himself with these southern enterprises, and will be appreciated by his countrymen. The concluding passage of his report is worthy of record.

"Let Carolina and Georgia be checkered by railways—let these all unite with those which, to the same extent, are intended to intersect the great valley of the Mississippi, and even in the progress of time, extend to the Pacific. Let our enterprising western brethren be afforded the facilities of communicating, at all times, with our southern Atlantic sea-ports, by routes shorter, cheaper, and more expeditious, and to markets more regular and certain in remunerating prices, than to those they are now in the habit of frequenting; and Charleston and Savannah, without, under a mistaken feeling of rivalry, struggling for a monopoly, which neither can attain, will find their true policy in the harmony of a free and unrestricted trade."

EDITOR'S NOTE.—Professor OLMSTEAD, of Yale College, has prepared a memoir of WHITNEY, the cotton-gin inventor, which we have received and value highly. The *Southern Quarterly Review* last number was able, but we differed widely from its article on EUGENE SUE, and wondered how "*Gestifeete Kater*" ever found its way into such a journal. Dr. NOTT's article was able, and so was Mr. CAMPBELL's. HUNT'S *Merchants' Magazine* is always welcome to our table; and the *Southern Agriculturist*, published in Charleston, is really deserving of large patronage. We thank W. H. TRESCOTT, Esq. of Charleston, for some notes on Nashville, which will aid us hereafter; and thank our brother B. F. De Bow, of the same city, for repeated favors. Mr. GAYARRE'S *History of Louisiana* will be elaborately reviewed in our next. *A South-Western Planter's* communication and quaint letter came to hand, but too late. We do not beg pardon for omitting the usual quantity of statistics in the latter part of the number, for really the body of the work is filled with them, which the reader will hardly regret.

TABLE OF CONTENTS.

ARTICLES.

ART. PAGE.

I.—LOUISIANA.—Napoleon's views of Louisiana; Histories of the State—Stoddard, Martin, and Marbois; Gayarre's History of Louisiana—its character; Louisiana Historical Documents; Early Discoveries; Crozat's Charter; the Mississippi Scheme; the Western Company and Law; French Colonial Government; Cession of Louisiana to Spain; Don Ulloa; O'Reilly; Powers and Government of O'Reilly; Early Trade of Louisiana; Spanish Treaty of 1783; Freedom of the Mississippi; Carondolet's Plot; Schemes for the possession of Louisiana; Spanish Treaty of Cession; French Government of the State; Dissatisfaction of the Americans; French Views of Louisiana; French and American Negociations; Purchase of Louisiana by the Americans, and Delivery; Ambiguities of the Treaty; Opposition of Spain; Territorial Government of Louisiana; Burr's Plot; Old Civil Code; Spanish Difficulties; State of Louisiana; Battle of Orleans; Rapid Advance of the State; the Code Noir, or Black Code; New Civil Code of 1825; the Code of Practice; Jurisprudence of Louisiana; Doctrine of Codification; Supreme Court of Louisiana; City of New Orleans; the New Constitution; its Innovations upon the Old; the Executive Department; the Legislative and Judicial; Crimes and Punishments; the Penetentiary; Corporations; Divorces; Duelling; Seat of Government; State University; Oath of Allegiance..... 386

II.—TRUE REMEDY FOR THE EMBARRSSMENTS OF THE COTTON PLANTERS AT THE SOUTH AND SOUTH-WEST. By a South-Western Planter 434

III.—FRENCH COLONIAL RECORDS AND FRENCH EXPLORATION OF NORTH-WESTERN AMERICA. By E. J. Forstall, Esq. New Orleans 437

IV.—HUMBUGIANA, OR THE IMPOSITIONS AND QUACKERIES OF THE AGE. By Dr. D. Macauley, New Orleans. 444

MERCANTILE AND AGRICULTURAL MISCELLANIES.

1.—Charleston Chamber of Commerce,..... 449
2.—Queries to the Cotton Planters,..... 453
3.—Well Water in Louisiana,..... 455
4.—Agricultural Schools,..... 456
5.—The City of Nashville,..... 457
6.—Prices of Sugar, &c. &c..... 459
7.—Rail Roads in the United States..... 460

THE PUBLISHING BUSINESS.

1.—The Democratic Review,..... 463
2.—The Whig Journal,..... 463
3.—Paulding's Old Continental, &c..... 464

A MERCHANT'S LIBRARY.

We have thought that it would be appropriate to furnish from time to time to our mercantile readers, a list of the most valuable works relating to their particular interests. To the enlightened merchant we should suppose them indispensable. Every young man engaged in business would do well to commence the purchase of these books at the earliest moment, and continue adding to them from the savings which his frugality will enable him to make. He will in this way always have at hand a stock of invaluable information, and form a taste for that kind of knowledge which cannot but make him distinguished in his career, and most eminently successful. Our list at present is necessarily incomplete but contains the most important works which we have had occasion from time to time to consult:—

McCulloch's Commercial Dictionary.
McGregor on Commercial Legislation.
Waterston's Encyclopœdia of Commerce.
Postlewayth's Commercial Dictionary.
Anderson's History of Commerce.
Vincent's Navigation and Commerce of Indian Ocean.
Barnes' Ancient Commerce. (*In American Biblical Repository.*)
Haeren's Commercial Researches.
Vaughan's Age of Great Cities.
Beawes Lex Mercatoria.
Chitty's Commercial Law.
Putnam's American Facts and Statistics.
Hunt's Merchant's Magazine.
Pitkins' American Statistics.
Life of Roscoe.—*Hazard.*

We shall take some pains in making up a complete and perfect list hereafter.